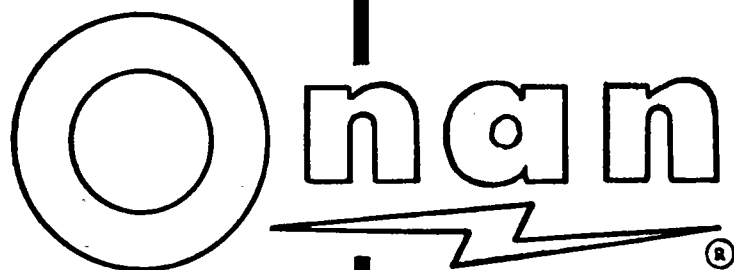


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assigns it.



**SERVICE  
AND  
PARTS CATALOG**

**SERIES  
CW  
ELECTRIC GENERATING PLANTS**

**ONAN**

**1400 73RD AVENUE N.E. • MINNEAPOLIS, MINNESOTA 55432**  
A DIVISION OF ONAN CORPORATION


## INSTRUCTIONS FOR ORDERING REPAIR PARTS

For parts or service, contact the dealer from whom you purchased this equipment or refer to your Nearest Authorized Parts & Service Center.

To avoid errors or delay in filling your parts order, please furnish all information requested.

Always refer to the nameplate on your plant:

1. Always give the MODEL & SPEC. NO. and SERIAL NO.

**ELECTRIC  PLANT**

MODEL AND SPECIFICATION NO. SERIAL NO.

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**IMPORTANT** MENTION ABOVE NUMBERS AND GEN. DATA WHEN ORDERING PARTS OR NOTING ABOUT THIS PLANT

**RATINGS AT SEA LEVEL BASED ON FUEL CHECKED BELOW**

GASOLINE	<input type="checkbox"/>	DIESEL FUEL	<input type="checkbox"/>	<input type="checkbox"/>
STAND BY	KW <input type="text"/>	KVA <input type="text"/>	AMPS <input type="text"/>	
CONTINUOUS	KW <input type="text"/>	KVA <input type="text"/>	AMPS <input type="text"/>	
A.C. VOLTS	<input type="text"/>	CYCLES	PHASE	P.F. <input type="text"/>
EXCITER	<input type="text"/>	GEN. DATA	<input type="text"/>	
R.P.M.	<input type="text"/>	USE	<input type="text"/>	VOLT BATTERY-NEGATIVE GROUND

MANUFACTURED BY  
**ONAN**  
DIVISION OF STODOLSKY CORPORATION  
MINNEAPOLIS 14, MINNESOTA

For handy reference, insert **YOUR** plant nameplate information in the spaces above.

2. Do not order by reference number or group number, always use part number and description.
3. Give the part number, description and quantity needed of each item. If an older part cannot be identified, return the part prepaid to your dealer or nearest **AUTHORIZED SERVICE STATION**. Print your name and address plainly on the package. Write a letter to the same address stating the reason for returning the part.
4. State definite shipping instructions. Any claim for loss or damage to your unit in transit should be filed promptly against the transportation company making the delivery. Shipments are complete unless the packing list indicates items are back ordered.

Prices are purposely omitted from this Parts Catalog due to the confusion resulting from fluctuating costs, import duties, sales taxes, exchange rates, etc.

For current parts prices consult your Onan Dealer, Distributor, or Parts and Service Center.

"En esta lista de partes los precios se omiten de proposito, ya que bastante confusion resulto de fluctuaciones de los precios, derechos aduanales, impuestos de venta, cambios extranjeros etc.

Consiga los precios vigentes de su distribuidor de productos "ONAN".

## PARTS CATALOG

This catalog applies to the standard CW Plants (including mobile application plants) as listed below. Parts are arranged in groups of related items. Each illustrated part is identified by a reference number corresponding to the same reference number below the illustration. Parts illustrations are typical. Using the *Model and Spec. No.* from the plant nameplate, select the Parts Key No. (1, 2, etc., in the last column) that applies to your plant Model and Spec. No. This Parts Key No. represents parts that differ between models. Unless otherwise mentioned in the description, parts are interchangeable between models. Right and left plant sides are determined by *facing* the engine end (front) of the plant.

### PLANT DATA TABLE

* MODEL & SPEC. NO.	ELECTRICAL DATA					PARTS KEY NO.
	WATTS	VOLTS**	CYCLE	PHASE	WIRES	
5CW-1M/ 5CW-2M/ 5CW-3M/ 5CW-4M/ 5CW-5M/	5,000 5,000 5,000 5,000 5,000	120 240 120/240 120/208 240	60 60 60 60 60	1 1 1 3 3	2 2 3 4 3	1 1 1 1 1
5CW-1R/ 5CW-2R/ 5CW-3R/ 5CW-4R/ 5CW-5R/ 5CW-6R/ 5CW-7R/ 5CW-8R/	5,000 5,000 5,000 5,000 5,000 5,000 5,000 5,000	120 240 120/240 120/208 240 480 220/380 127/220	60 60 60 60 60 60 60 60	1 1 1 3 3 3 3 3	2 2 3 4 3 3 4 4	2 2 2 2 2 2 2 2
5CW-53M/ 5CW-54M/ 5CW-57M/	5,000 5,000 5,000	120/240 120/208 220/380	50 50 50	1 3 3	3 4 4	1 1 1
5CW-53R/ 5CW-54R/ 5CW-55R/ 5CW-57R/	5,000 5,000 5,000 5,000	120/240 120/208 240 220/380	50 50 50 50	1 3 3 3	3 4 3 4	2 2 2 2
6CW-53R/ 6CW-54R/ 6CW-55R/ 6CW-55DR/ 6CW-56R/ 6CW-57R/	6,250 6,250 6,250 6,250 6,250 6,250	120/240 120/208 240 120/240 480 220/380	50 50 50 50 50 50	1 3 3 3 3 3	3 4 3 4 3 4	4 4 4 4 4 4
705CW-1R/ 705CW-2R/ 705CW-3R/ 705CW-3R17/ 705CW-4R/ 705CW-5R/ 705CW-5DR/ 705CW-6R/ 705CW-7R/	7,500 7,500 7,500 7,500 7,500 7,500 7,500 7,500 7,500	120 240 120/240 120/240 120/208 240 120/240 480 220/380	60 60 60 60 60 60 60 60 60	1 1 1 1 3 3 3 3 3	2 2 3 3 4 3 4 3 4	4 4 4 4 4 4 4 4 4
8CW-3R/ 8CW-4R/	8,000 8,000	120/240 120/208	50 50	1 3	3 4	4 4
8CW-53M/ 8CW-54M/ 8CW-55M/ 8CW-56M/ 8CW-57M/	8,000 8,000 8,000 8,000 8,000	120/240 120/208 240 480 220/380	50 50 50 50 50	1 3 3 3 3	3 4 3 3 4	3 3 3 3 3
8CW-53R/ 8CW-54R/ 8CW-55R/ 8CW-55DR/ 8CW-56R/ 8CW-57R/	8,000 8,000 8,000 8,000 8,000 8,000	120/240 120/208 240 120/240 480 220/380	50 50 50 50 50 50	1 3 3 3 3 3	3 4 3 4 3 4	4 4 4 4 4 4
9CW-3R/ 9CW-4R/	9,000 9,000	120/240 120/208	60 60	1 3	3 4	4 4
10CW-3M/ 10CW-4M/ 10CW-5M/ 10CW-6M/	10,000 10,000 10,000 10,000	120/240 120/208 240 480	60 60 60 60	1 3 3 3	3 4 3 3	3 3 3 3

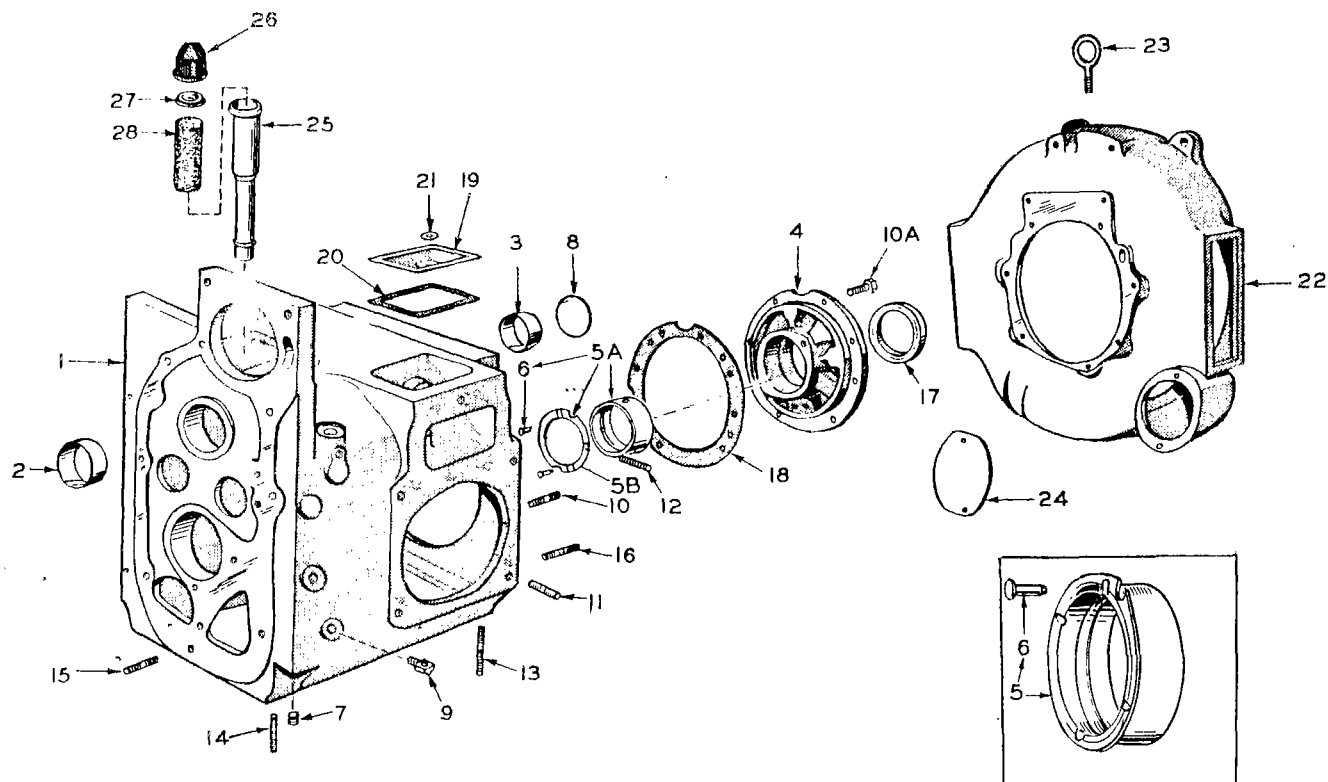
**PLANT DATA TABLE (Cont.)**

* MODEL & SPEC. NO.	ELECTRICAL DATA					PARTS KEY NO.
	WATTS	VOLTS**	CYCLE	PHASE	WIRES	
10CW-3R/	10,000	120/240	60	1	3	4
10CW-4R/	10,000	120/208	60	3	4	4
10CW-5R/	10,000	240	60	3	3	4
10CW-5DR/	10,000	120/240	60	3	4	4
10CW-6R/	10,000	480	60	3	3	4
10CW7R/	10,000	220/380	60	3	4	4
10CW-8R/	10,000	127/220	60	3	4	4
10CW-150R/	10,000	250	DC		2	5
MOBILE APPLICATION PLANTS ***	SPECIFICATION NUMBERS, 96, 665, 980, 1329, 1338, 1511, 1597, 1615, 1689, 1725, 1775, 1776, 1813, 1819, 1824, 1837, 1841, 1850, 1970, 1991, 2148, 2203, 2206, 2217, 2428, 2537					6

\* - The Specification Letter Advances (A to B, B to C, etc.) with Manufacturing Changes.

\*\* - Reference to 120, 240, 120/240 and 480-volt Also Applies to 115, 230, 115/230 and 460-volt.

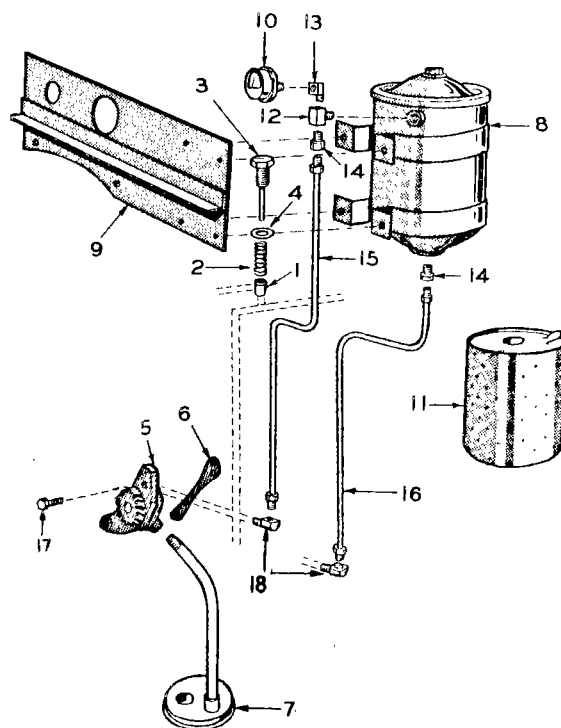
\*\*\* - Parts that Differ Between Mobile Application Plants will Also have the Specification Number Shown in the Part Description.



CRANKCASE GROUP

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	101A236	1	Crankcase. (Incl. Brgs., Rr. Brg. Plate & Oil Seal) - Repl. 101A217
2	101B373	1	Bearing, Frt. Cam., Prec. Type (Repl. 101A70)
3	101A367	1	Bearing, Rr. Cam., Prec. Type (Repl. 101A50)
4	PLATE, REAR CRANKSHAFT BRG.		
	101C67	1	To Spec. E
	101C268	1	Begin Spec. E
5		2	Bearing Kit, Crankshaft, Frt. & Rr. - To Spec. J, See Ref. No. 5A
5A	101K341	2	Bearing Kit, Crankshaft - Frt. & Rr., Incl. Thrust Washer & Pins, Prec. Type, Bronze Faced, Specify: Std. or .002", .010", .020" or .030" Under., Original Equip. Begin Spec. J Repl. Alum. Flanged Brg. Kit 101K220 Used on Earlier Models
5B	104B432	2	Washer, Crankshaft Thrust
6	516A72	As Req.	Pin, Lock (2) Flanged Brg., (4) Separate Thrust Washers
7	505-274	4	Plug, Countersunk Hd.
8	517-48	1	Plug, Exp., Rr. Camshaft Brg. Opening (Repl. 517-18)
9	502-2	2	Elbow, Oil Filter Lines
10	520A11	8	Stud, Rear Brg. Plate, To Spec. E

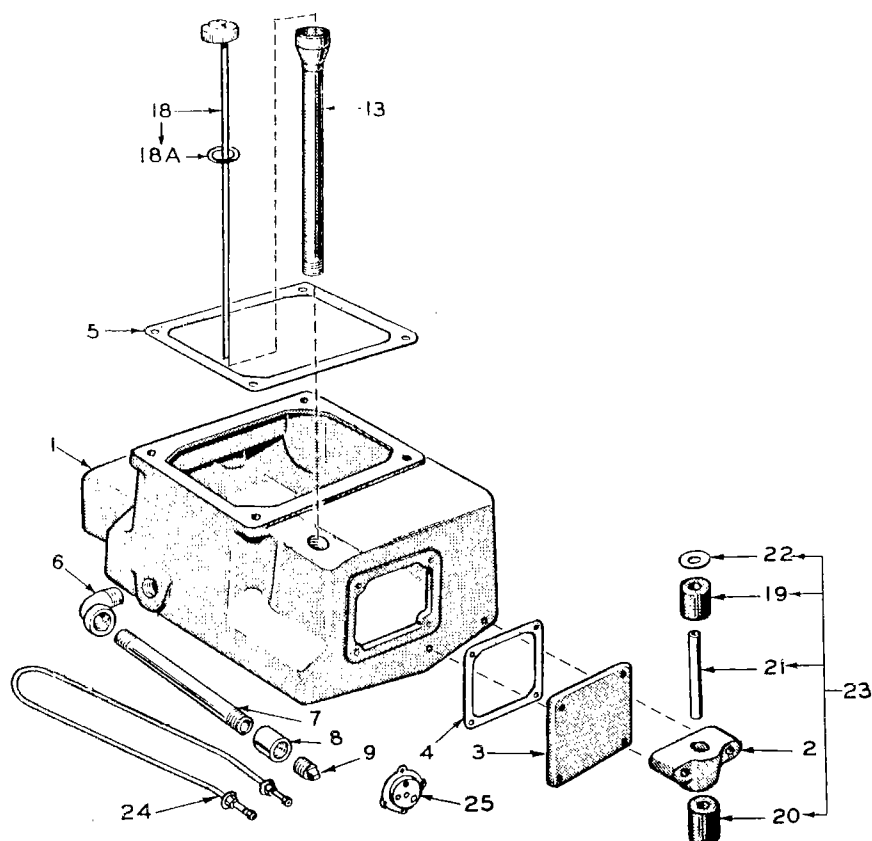
REF. NO.	PART NO.	QTY. USED	PARTS DESCRIPTION
10A	805-18	8	Bolt, Place, Rear Brg. Plate Begin Spec. E
11	520A431	8	Stud, Cyl. Base
12	520A434	2	Stud, Cyl. Base
13	520A432	2	Stud, Oil Base, Spec. A
14	520A433	2	Stud, Oil Base, Spec. A
15	STUD, GEAR COVER		
	520A9	6	Spec. A
	520A11	1	Begin Spec. B
16	520A118	6	Stud, Flywhl. Hsg., Spec. A
17	509P64	1	Seal, Oil, Crankshaft Rear
18	101K116	1	Gasket Kit, Rr. Brg. Plate (Assorted Thickness)
19	110B640	2	Cover, Valve Box
20	110A647	2	Gasket, Valve Box Cover
21	526-63	2	Washer, Copper - Valve Cover Screw
22	HOUSING, FLYWHEEL		
	101E188	1	Spec. A Only
	101E222	1	Key 1,2,3,4,6 - Begin Spec. B
	101B229	1	Key 5
23	403A95	1	Bolt, Eye - Lifting
24	101A154	1	Plate, Cover, Flywhl. Hsg. Opening, Spec. A
25	123A445	1	Tube, Breather - Begin Spec. B
26	123A458	1	Cap, Breather Tube - Begin Spec. B
27	123A315	1	Valve, Breather
28	123-452	1	Filter, Breather Tube - Begin Spec. B



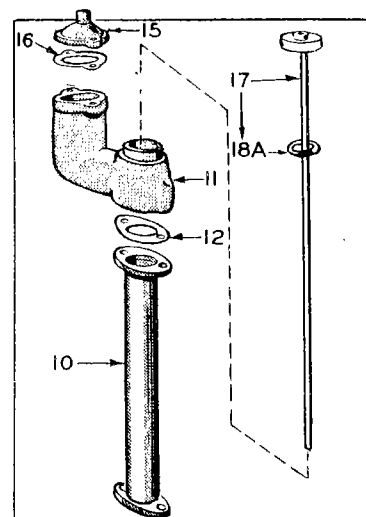
OIL PUMP, OIL FILTER & BY-PASS GROUP

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	120A222	1	Piston, Valve - Oil By-pass
2	120A221	1	Spring, Oil By-Pass (Repl. 120A270)
3	120A224	1	Screw, Guide - Oil By-Pass (Repl. 120A380)
4	526-153	1	Washer - Copper - Oil By-Pass (Repl. 526-69)
5	120A279	1	Pump, Oil
6	120K161	1	Gasket Kit, Pump
7	120B275	1	Cup, Intake - Pump
8	122C56	1	Filter, Incl. Cartridge
9	122C122	1	Bracket, Filter (Repl. 122C89 & 122C120)
10	193P6	1	Gage, Pressure
11	122-37	1	Cartridge, Filter
12	502-57	1	Tee, Filter Inlet
13	505-52	1	Elbow, Press. Gage Conn.

REF. NO.	PART NO.	QTY. USED	PARTS DESCRIPTION
14	502-3	2	Connector, Inv. Flare - Lines to Filter
15	122B94	1	Line, Filter Inlet
16	122B95	1	Line, Filter Outlet
17	120A182	1	Screw, Shoulder - Pump Mtg.
18	502-2	2	Elbow, Inv. Flare, Filter Lines, Key 1,2,3,4,5
19	309B10	1	Switch, Cut-off - Low Oil Press. (Opt.) Key 6
20	308-97	1	Switch, Momentary Contact (Used with Opt. Cut-off Switch) Repl. 308P37, Key 6
21	502-58	1	Tee, (Opt.) Cut-off Switch Mtg., Key 6
22	502-20	2	Elbow, St. (Two Used to Mt. Oil Gage Optionally Facing Left) Key 6



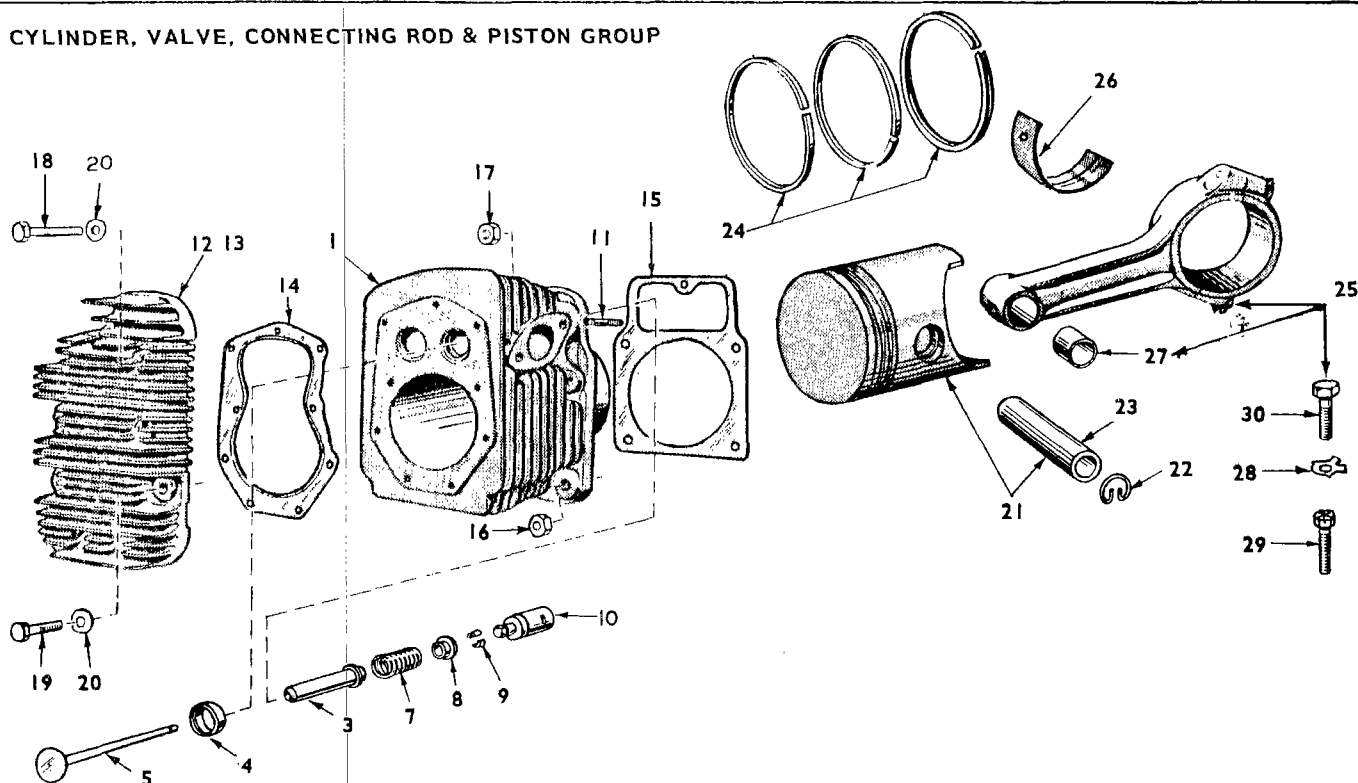
OIL BASE GROUP



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	BASE, OIL		
	102E220	1	Spec. A, Key 1,2,3,4,5
	102E262	1	Begin Spec. B, Key 1,2,3,4,5 & 6 (Except Spec. 2428)
	102E465	1	Key 6 (Spec. 2428 Only)
2	FOOT, OIL BASE		
	102B223	2	Spec. A
	102B271	2	Begin Spec. B
3	COVER, OIL BASE OPENING		
	102A221	1	Standard
	102A248	1	Optional - For Heater Assy, Less Heater
4	102A222	1	Gasket, Oil Base Opening Cover
5	102B215	1	Gasket, Oil Base to Crkcase.
6	505-51	1	Elbow, St. - Oil Base Drain (3/4")
7	505-268	1	Pipe, Oil Drain (3/4 x 9)
8	505-29	1	Coupling, Drain Pipe, 3/4"
9	505-130	1	Plug, Oil Drain - 3/4"
10	123C402	1	Tube, Oil Fill - Spec. A Only
11	123C388	1	Housing, Crankcase Breather-Spec. A Only
12	123A380	2	Gasket - Oil Fill Tube, Breather Hsg., Spec. A Only

REF. NO.	PARTS NO.	QTY. USED	PARTS DESCRIPTION
13	123A437	1	Tube, Oil Fill - Begin Spec. B
15	123B409	1	Cap, Breather Hsg., Spec. A Only
16	123A410	1	Gasket, Breather Hsg., Spec. A Only
17	123A378	1	Indicator, Oil Level - Spec. A Only
18	123A439	1	Indicator, Oil Level - Begin Spec. B
18A	123A191	1	Gasket, Oil Level Indicator
19	402A36	4	Cushion, Mtg. - Upper
20	402A38	4	Cushion, Mtg. - Lower
21	402A46	4	Bushing, Cushion Spacer
22	526A124	8	Washer, Mtg. Cushion
23	MOUNTING ASSY. - INCL. REF. 19,20,21,22 PLUS HARDWARE		
	402A103	4	With 6" Bolt
	402A219	4	With 8" Bolt (Optional)
24	333B42	1	Element, Heater - Oil Base (Opt.)
25	309-29	1	Thermostat - Oil Heater Cont. (Opt.)

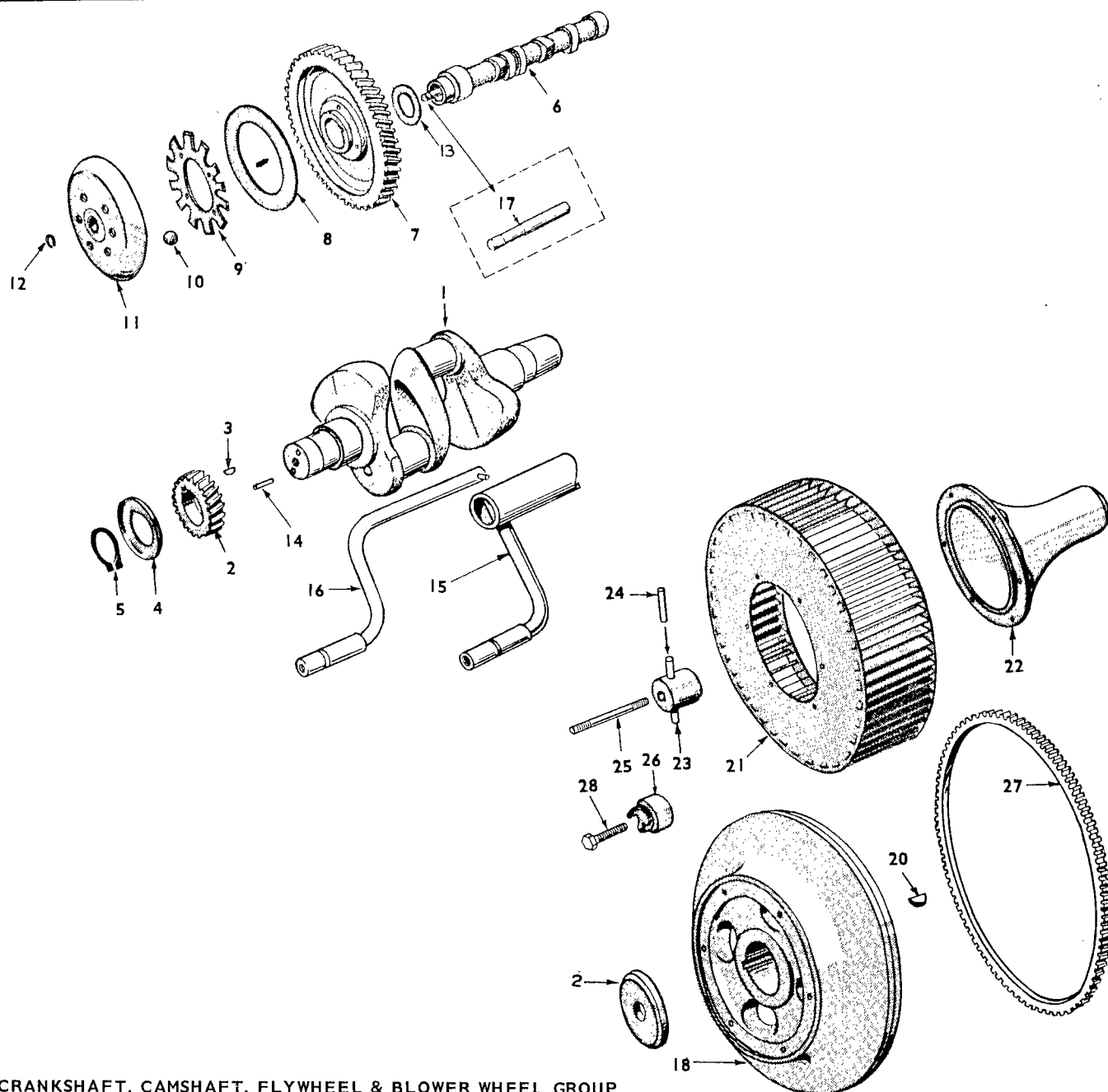
# CYLINDER, VALVE, CONNECTING ROD & PISTON GROUP



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	BLOCK, CYL. - INCL. VALVE GUIDES & EXH. VALVE SEAT INSERT - LESS VALVES, ETC.		
	110C757	1	Left Hand, Std.
	110C1201	1	Left Hand with Stellite Intake & Exhaust Valve Seat Inserts Optional
	110C756	1	Right Hand, Std.
	110C1200	1	Right Hand, with Stellite Intake & Exhaust Valve Seat Inserts - Optional
3	110B644	4	Guide, Valve
4	INSERT, VALVE SEAT - STELLITE		
	110A646	2	Exhaust - Specify: Std. or .002", .005", .010", .025" Over.
	110A1191	2	Intake - Optional
5	VALVE		
	110B642	2	Exhaust - Stellite - Std.
	110B1195	2	*Exhaust - Stellite - For Rotator - Optional
	110B643	2	Intake - Std.
	110B1193	2	*Intake - Stellite - Optional
7	110A738	4	Spring, Valve
8	RETAINER, VALVE SPRING		
	110A648	4	Used with 110B642 & 110B643 Valves
	110A1204	4	*Used with 110B1193 & 110B1195 Valves - Optional
8	110A620	4	*Rotocap, Valve - Used with 110B1193 & 110B1195 Valves Optional
9	110A639	8	Lock, Valve Sprg. Retainer
10	115A34	4	Tappet, Valve - Incl. Adj. Screw
11	520A11	4	Stud, Exhaust Manifold
12, 13	HEAD, CYL. - (Be Sure Both Heads are of the Same Compression)		
12	110D638	1	Left Hand, Std. Comp., For Gasoline Fuel
12	110D749	1	Left Hand, High Comp. For Gas Fuel

REF. NO.	PART NO.	QTY. USED	PARTS DESCRIPTION
13	110D637	1	Right Hand, Std. Comp., For Gasoline Fuel
13	110D748	1	Right Hand, High Comp., For Gas Fuel
14	110B641	2	Gasket, Cyl. Hd.
15	110B645	2	Gasket, Cyl. Base
16	110A707	8	Nut, Cyl. Base Mtg.
17	104A91	2	Nut, Cyl. Base Mtg.
18	110A815	10	Screw, Hex. Hd. Cyl. Hd. Mtg.
19	110A814	8	Screw, Hex Hd. Cyl. Hd. Mtg.
20	526A127	18	Washer, Cyl. Hd. Mtg.
21	112-90	2	Piston & Pin - Specify: Std. or .010", .020", .030" or .040" Over. (Repl. 112-55)
22	112A19	4	Ring, Lock - Piston Pin
23	112A54	2	Pin, Piston - Specify: Std. or
24	113-105	2	Ring Set - For 1 Piston - Specify: Std. or .010", .020", .030", .040" Over. (Repl. 113-59)
25	114B64	2	Rod, Connecting
26	114B53	4	Bearing Half, Con. Rod - Specify: Std. or .002", .010", .020", .030" Under.
27	114B54	2	Bushing, Piston Pin - Semi-Finished
28	114A20	4	Washer, Lock - Con. Rod Screw - (See Ref. 30)
29	114A57	4	Screw, Conn. Rod - (See Ref. 30)
30	805-20	4	Bolt, Place - Repl. 114A20 & 114A57

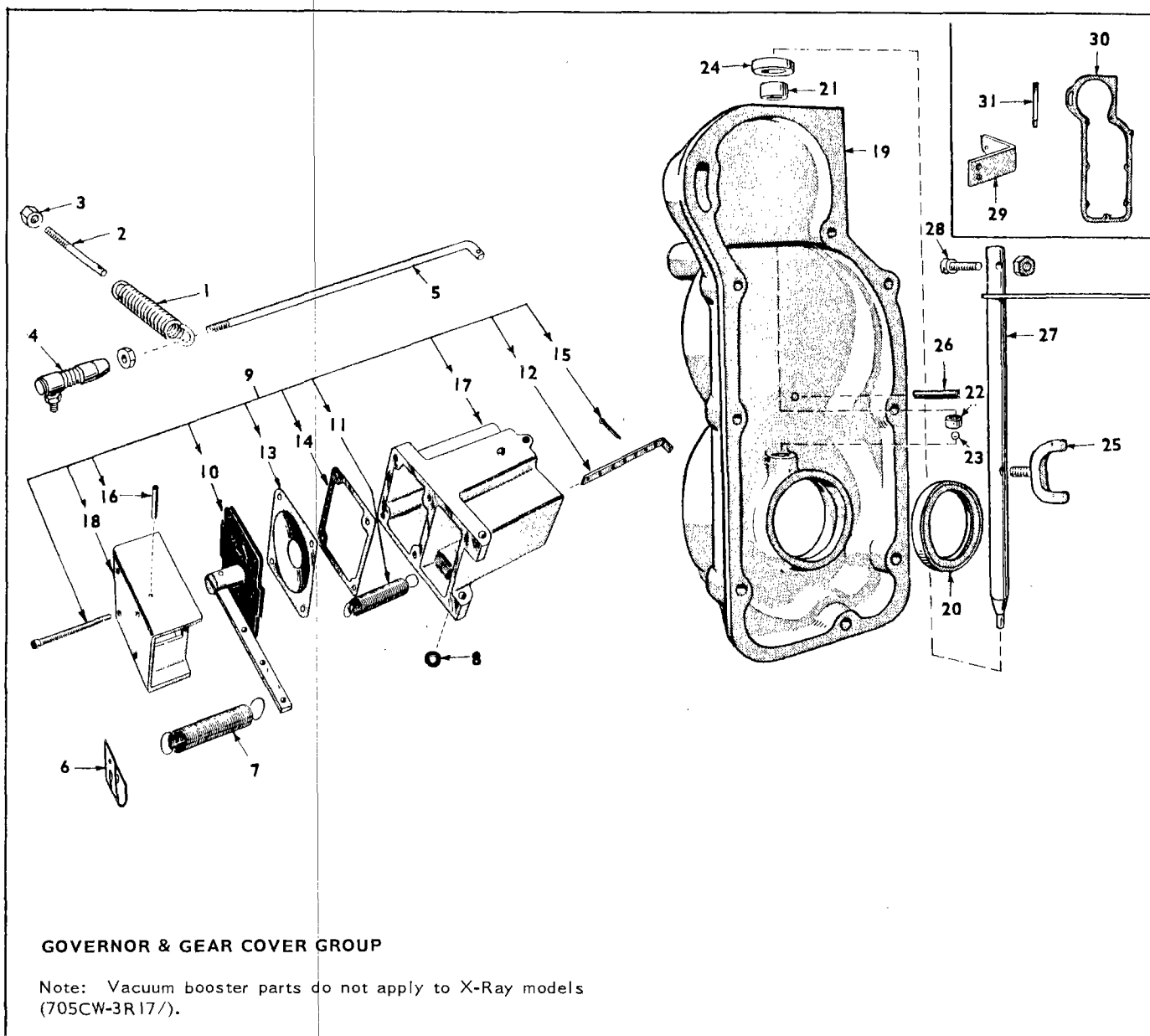
\* - The optional Stellite Valve has its groove located 1/4" from end of stem to accommodate optional Rotocap Valve Rotators and not change spring tension. If the Rotocap is not used on this valve, the optional 110A1204 Spring Retainer (13/64" thick at O.D.) is required for proper spring tension.



CRANKSHAFT, CAMSHAFT, FLYWHEEL & BLOWER WHEEL GROUP

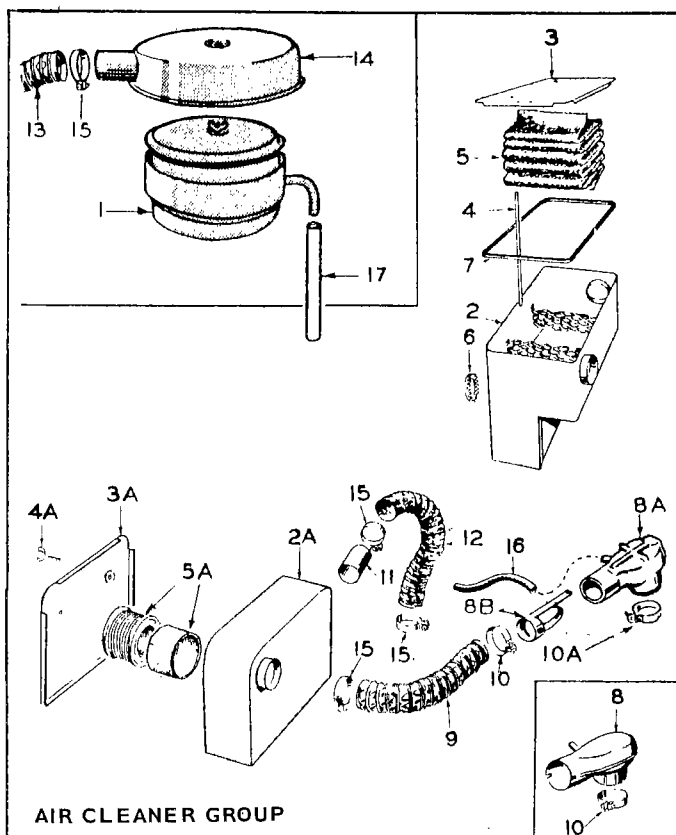
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	104D172	1	Crankshaft
2	104B1	1	Gear, Crankshaft
3	515-1	2	Key, Crnkshft & Camshft. Gr.
4	104A365	1	Washer & Slinger, Crnkshft. Gear (Repl. 104A95)
5	518-16	1	Ring, Lock - Crnkshft. Gr. Washer
6	105A112	1	Camshaft - Incl. Center Pin
7	105B107	1	Gear, Camshaft
8	150A413	1	Plate, Back - Gov. Ball
9	150C417	1	Spacer, Gov. Ball
10	510-46	12	Ball, Fly - Governor
11	150A440	1	Cup, Governor
12	150P437	1	Ring, Snap - Center Pin
13	105A42	1	Washer, Thrust - Cam. Gear
14	516A116	2	Pin, Roll - Crank Guide Pilot
15	192C259	1	Spec. A, B - Housed Plants (Repl. 192C204)

REF. NO.	PART NO.	QTY. USED	PARTS DESCRIPTION
16	192C268	1	Begin Spec. C
17	150A435	1	Pin, Camshaft Center
18	FLYWHEEL		
	104D192	1	Key 1,2,3,4,6
	104A205	1	Key 5 - Incl. Ring Gr.
19	104A160	1	Washer, Flywheel
20	515-90	1	Key, Flywheel Mtg.
21	134C388	1	Wheel, Blower
22	134C387	1	Hub, Blower Wheel
23	192B193	1	Support Guide, Crank - Incl. Dowel Pins - Spec. A,B
24	516A11	2	Pin, Dowel - Crank Support - Spec. A,B
25	520A451	1	Stud, Blower Wheel & Support Spec. A,B
26	104B252	1	Dog, Crank, Begin Spec. C
27	104-137	1	Gear, Ring - Key 5
28	800-75	1	Screw, Dog Mtg., Begin Spec. C (Repl. 806-38)



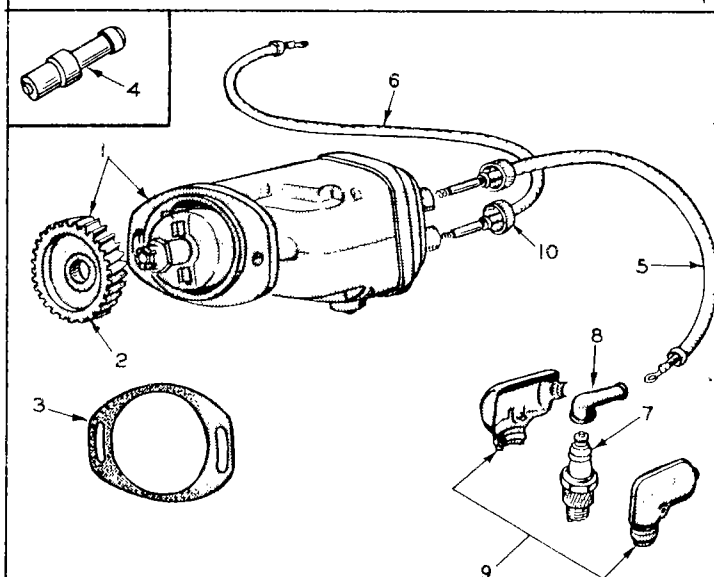
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	150A115	1	Spring, Governor
2	150A96	1	Stud, Gov. Sprg. Tension
3	150A398	1	Nut, Gov. Spd. Adj.
4	150A639	1	Joint Ball, Gov. Link (Repl. 150A300)
5	150A410	1	Link, Gov. Arm to Carb.
6	150A495	1	Bracket, Booster Ext. Sprg. Key 3,4,5,6
7	150A471	1	Spring, Ext. Booster - Key 3,4,5,6
8	150A425	1	Ring, Gasket - Booster to Man. - Key 3,4,5,6
9	150K580	1	Kit, Booster Repl. Key 3,4,5,6
10	150K582	1	Kit, Booster Diaph., Key 3,4,5,6
11	150A475	1	Spring, Booster - Int., Key 3,4,5,6
12	150A376	1	Bracket, Booster Int. Sprg., Key 3,4,5,6
13	150A666	1	Plate, Diaph., Booster, Key 3,4,5,6 (Repl. 150A373)
14	150A668	1	Gasket, Diaph. Plate, Key 3,4,5,6 (Repl. 150A374)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
15	516-39	1	Pin, Cotter, Key 3,4,5,6
16	516-85	1	Pin, Roll, Key 3,4,5,6
17		1	Housing, Vacuum Booster (Not Sold Separately)
18		1	Cover, Vacuum Booster Hsg. (Not Sold Separately)
19	COVER, GEAR - ASSY., INCL. REF. 20 - 29		
	103C115	1	Spec. A
	103C173	1	Begin Spec. B (Repl. 103C140)
20	509-19	1	Seal, Oil - Crnkshft. Frt.
21	510-48	1	Bearing, Needle (Upper)
22	510-49	1	Bearing, Needle (Lower)
23	510-14	1	Ball, Brg., Shaft Thrust
24	509-46	1	Seal, Oil - Gov. Shaft
25	150A444	1	Yoke, Governor Shaft
26	516-90	1	Pin, Stop - Gov. Cup
27	150B416	1	Arm & Shaft Gov.
28	150A438	1	Screw, Adj. - Gov. Sensitivity
29	150A411	1	Bracket, Gov. Spring
30	103C110	1	Gasket, Gr. Cover Mtg.
31	520A363	1	Stud, Arm Cover Mtg. - Spec. A Only



REF. NO.	PART NO.	QTY. USED	PARTS DESCRIPTION
4A	518-56	2	Screw, Cart. Type - Begin Spec. G
5	140-359	1	Element, Mesh Type - Spec. B through F
5A	140B495	1	Cartridge & Wrapper, Begin Spec. G (Note: Wrapper not sold separately.)
6	517-9	1	Plug, Button - Spec. B through F
7	140B467	1	Gasket, Spec. B through F (Repl. 508-73)
8	140A357	1	Inlet, Carb. Air (Metal) Spec. B through H - Order 145A239
8A	145A239	1	Inlet, Carb. (Air Horn) Rubber Begin Spec. J
8B	145A246	1	Bushing, Carb. Air Inlet for Rubber Inlet - Begin Spec. J
9	503B402	1	Hose, Air Clnr. to Carb. - Begin Spec. B (Repl. 503A263 & 503B42)
10	CLAMP, HOSE		
	503-274	1	Air Clnr. Hose to Carb. Inlet
	503-274	1	Metal Inlet to Carb. - Spec. B through H
10A	503A368	1	Clamp, Hose - Rubber Inlet to Carb., Begin Spec. J
11	133A32	1 or 2	Tube, Air Pre-heater - Spec. A (1), Begin Spec. B (2)
12	503-259	1	Hose, Air Pre-heater - Begin Spec. B
13	503A215	1	Hose, Air Pre-heater - Spec. A
14	133K30	1	Pre-Heater Kit, Air - Spec. A (Incl. Air Adapter, Hose, Clamps & Tube)
15	503-269	3	Clamp, Hose - (2) Air Pre-heater Hose, (1) Air Clnr. Hose to Air Clnr.)
16	503A275	1	Hose, Breather Cap to Air Inlet (3-1/8") Begin Spec. B (See Also Optional Fuel System Group) Spec. A
17	123A411	1	Tube, Breather Cap to Air Clnr. (See Also Optional Fuel System Group) Spec. A
	508-31	1	Grommet, Rubber - Air Clnr. (For 11/32" Hole) Spec. B Through F

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	140A343	1	Cleaner, Air - Oil Bath Type, Spec. A (Repl. 140C266)
2	140D355	1	Housing, Mesh Type - Spec. B through F
2A	140D531	1	Housing, Cart. Type - Begin Spec. G
3	140B356	1	Cover, Mesh Type - Spec. B through F
3A	140B532	1	Cover, Cart. Type - Begin Spec. G
4	520A75	2	Stud, Mesh Type - Spec. B through F

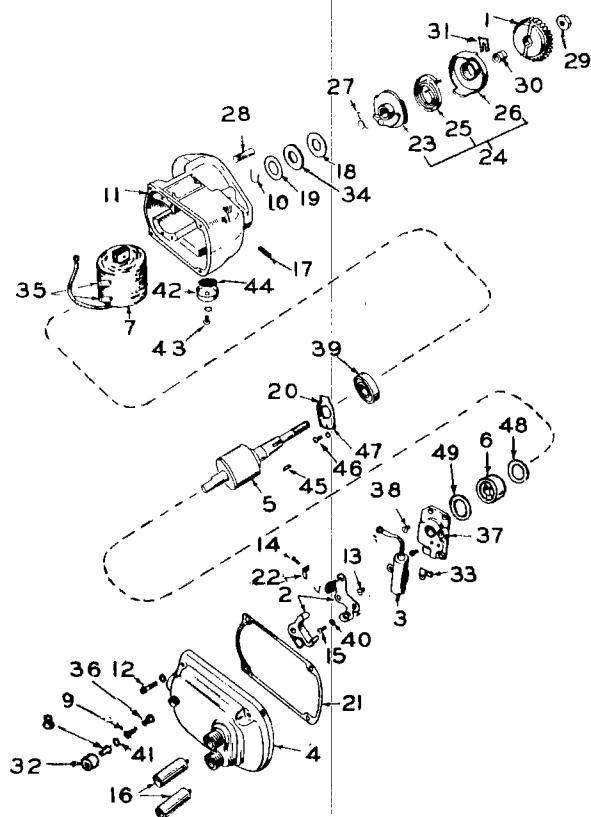


REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	161C238	1	Magneto, Incl. Gear, Less Stop Button (Repl. 161A148)
2	160B339	1	Gear, Magneto Drive
3	160A124	1	Gasket, Magneto Mtg.
4	161P152	1	Button, Stop - Key 1,3
5	CABLE, SPARK PLUG - RIGHT HAND		
	167A1213	1	Shielded, Key 1,2,3,4,6
	167A1277	1	Unshielded, Incl. Seal, Key 5,6
6	CABLE, SPARK PLUG - LEFT HAND		
	167A1214	1	Shielded, Key 1,2,3,4,6
	167A1278	1	Unshielded, Incl. Seal, Key 5,6
7	167-34	2	Plug, Spark (Repl. 167-35)
8	166-105	2	Nipple, Spark Plug
9	167A41	2	Shield, Spark Plug
10	167A57	2	Nut, Coupling - Spk. Plg. Cables to Magneto
	167-19	2	Seal, Rubber - Spk. Plg. Cable to Magneto - Key 5,6

IGNITION GROUP

# MAGNETO PARTS GROUP (Type FM-PEI)

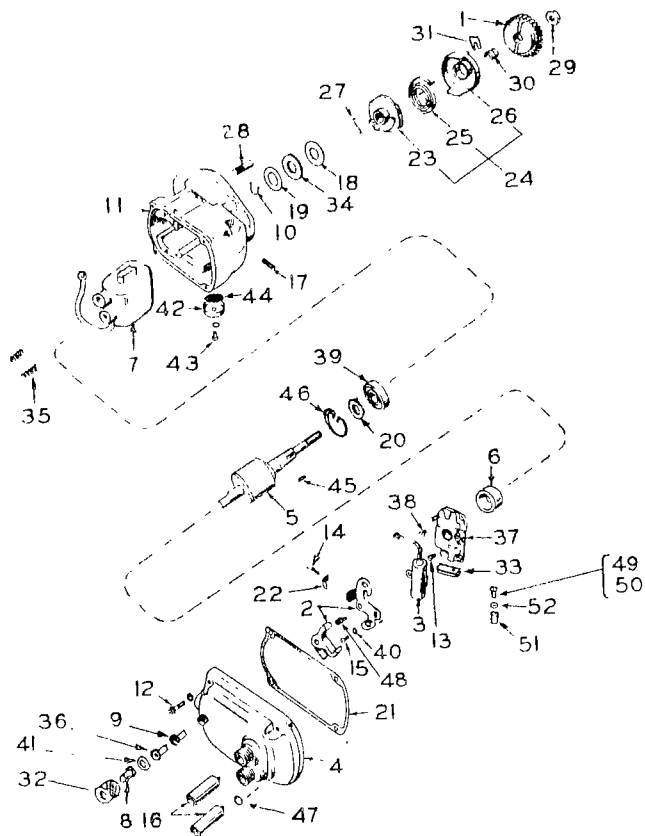
Note: These parts are for type FM-PEI-2B69A magneto. Be sure to check magneto nameplate for type before ordering replacement parts.



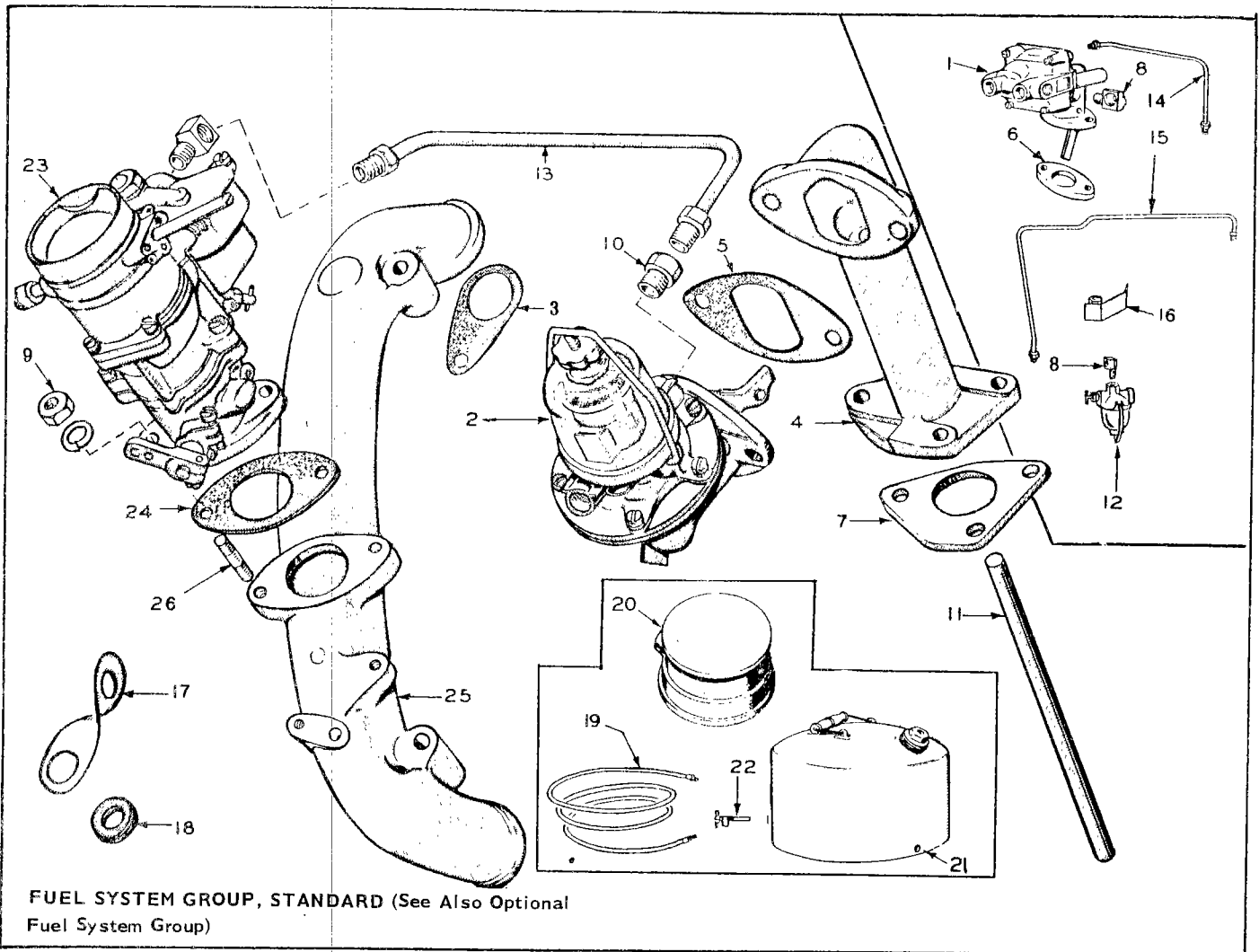
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
	161C238	1	Magneto Assy., Incl. Dr. Gr., (Repl. 161A148)
1	160B339	1	Gear, Mag. Drive
2	161-242	1	Point Set, Incl. Arm & Stationary Brkt.
3	161A178	1	Condenser, Magneto
4	161P210	1	Cap, End
5	161P212	1	Rotor Assy., Magnetic
6	161P217	1	Bearing, Roller - Rotor Cam End
7	161P211	1	Coil, Magneto
8	161A11	1	Ferrule, Grd. Term.
9	161P118	1	Insulator, Grd. Term.
10	161-19	1	Ring, Drive Shaft Snap
11	161-236	1	Housing, Magneto
12	161-120	4	Screw, End Cap (10-24 x 5/8")
13	161P224	1	Screw, Condenser Mtg. (8-32 x 1/4")
14	161P223	1	Screw & Lockwasher, Brkr. Arm Term.
15	161P231	1	Screw & Lockwasher, Contact Support Locking (8-32 x 5/16)
16	161P123	2	Outlet, High Tension Cable
17	161P226	2	Set Screw, Coil Bridge
18	161-128	1	Washer, Rotor Dr. End Seal (Outer)
19	161P213	1	Washer, Rotor Dr. End Seal (Inner)
20	161P214	1	Washer, Rotor Dr. End Brg. Retaining
21	161P215	1	Gasket, End Cap to Hsg.
22	161-136	1	Spring, Contact Support Grd.
23	161-170	1	Hub, Coupling
24	161-243	1	Coupling Assy., Impulse - Incl. 23, 25, 26
25	161-51	1	Spring, Impulse Cplg. Dr.
26	161-131	1	Shell, Impulse Cplg.
27	161-96	1	Spring, Impulse Cplg. Pawl
28	161-172	1	Pin, Impulse Cplg. Pawl Stop (3/8-16)
29	161-53	1	Nut, Impulse Coupling
30	161-135	1	Bushing, Impulse Coupling
31	161-240	1	Washer, Coupling Plate
32	161P164	1	Nut, Ground Cable
33	161P230	1	Wick & Holder, Cam
34	161-62	1	Seal, Rotor Drive End
35	161-186	1	Spring, Coil Lead
36	161-119	1	Terminal Ground Cable
37	161P216	1	Support, Bearing
38	814-77	4	Screw, Brg. Support (8-32 x 3/8")
39	161P71	1	Bearing, Rotor Drive End
40	526-3	1	Washer, Contact Support Locking Screw Plate
41	161A79	1	Washer, Ground Terminal
42	161P219	1	Cover, Vent
43	161P220	1	Screw, Vent Cover (6-32 x 1/4")
44	161P221	1	Screen, Vent
45	515-1	1	Key, Rotor Shaft to Impulse Cplg.
46	161-244	1	Screw, Rotor Dr. End Brg. Washer (8-32 x 3/8")
47	850-25	1	Lockwasher, Brg. Retainer Screw
48	161P232	1	Washer, Brg. Support Grease Retaining (Outer)
49	161P213	1	Washer, Brg. Support Grease Retaining (Inner)

# MAGNETO PARTS GROUP (Type FM-JE1)

Note: These parts are for type FM-JE1-2B69A magneto. Be sure to check magneto nameplate for type before ordering parts.



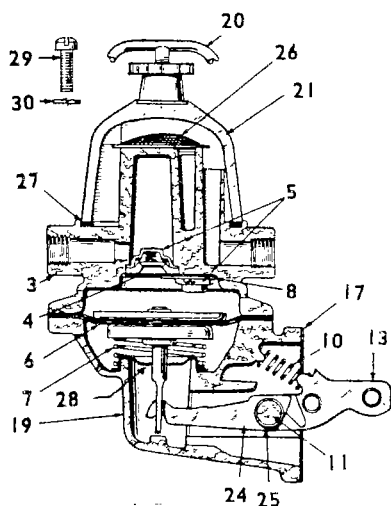
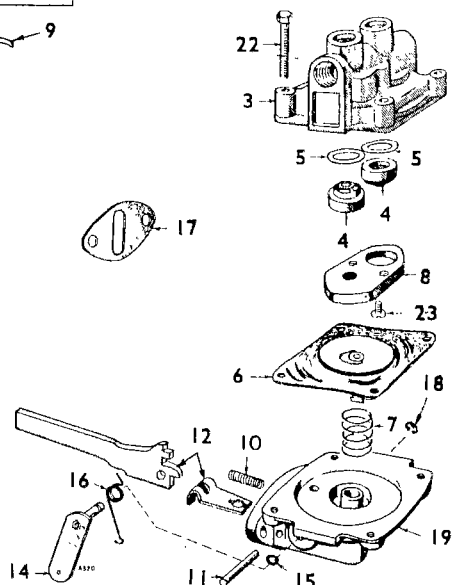
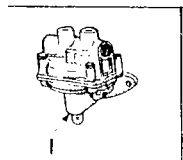
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
		1	Magneto Assy., Incl. Dr. Gr. (Order 161C238)
1	160B339	1	Gear, Magneto Drive
2	161-86	1	Point Set, Contact
3	161A178	1	Condenser Magneto
4	161P210	1	Cap, End
5	161-169	1	Rotor Assy., Magnetic
6	161-72	1	Bearing, Rotor Cam End
7	161-168	1	Coil, Magneto
8	161A11	1	Ferrule, Primary Grd.
9	161P118	1	Insulator, Primary Grd. Term.
10	161-19	1	Ring, Rotor Shaft Snap
11	161-236	1	Housing, Magneto
12	161-120	4	Screw, End Cap (10-24 x 5/8")
13	161P225	1	Screw, Condenser Mtg. (8-32 x 3/8")
14	161P225	1	Screw & Lockwasher, Brkr. Arm Term. (8-32 x 3/8")
15	161P225	2	Screw & Lockwasher, Contact Support Locking (8-32 x 3/8")
16	161P123	2	Outlet, High Tension Cable
17	161-239	2	Set Screw, Coil Bridge
18	161-128	1	Washer, Rotor Dr. End Seal (Outer)
19	161P213	1	Washer, Rotor Dr. End Seal (Inner)
20	161-56	As Req.	Shim, Rotor Dr. End Brg.
21	161A42	1	Gasket, End Cap to Hsg.
22	161-136	1	Spring, Ground Switch
23	161-170	1	Hub, Coupling
24	161-171	1	Coupling Assy., Impulse - Incl. 23, 25, 26
25	161-51	1	Spring, Impulse Cplg. Dr.
26	161-175	1	Shell, Impulse Cplg.
27	161-96	1	Spring, Impulse Cplg. Pawl
28	161-172	1	Pin, Impulse Cplg. Pawl Stop (3/8-16)
29	161-53	1	Nut, Impulse Coupling
30	161-135	1	Bushing, Impulse Coupling
31	161-240	1	Washer, Coupling Plate
32	161P164	1	Nut, Ground Cable
33	161-112	1	Wick & Holder, Cam
34	161-62	1	Seal, Rotor Drive End
35	161-186	2	Spring, Coil Lead
36	161-119	1	Terminal, Ground Cable
37	161-173	1	Support, Bearing
38	814-77	4	Screw, Brg. Support (8-32 x 3/8")
39	161P71	1	Bearing, Rotor Drive End
40	526-3	2	Washer, Contact Support Locking Screw Plate
41	161A79	1	Washer, Grd. Term.
42	161A219	1	Cover, Vent
43	161P220	1	Screw, Vent Cover (6-32 x 1/4")
44	161P221	1	Screen, Vent
45	515-1	1	Key, Rotor Shaft to Impulse Coupling
46	161-18	1	Ring, Rotor Bearing Snap
47	161-241	1	Washer, End Cap Plate
48	161-35	1	Screw, Contact Support Adj.
49	812-61	1	Screw, Cam Wick (6-32 x 3/8")
50	161-116	1	Lockwasher, Cam Wick Screw
51	161-113	1	Spacer, Cam Wick
52	161-114	1	Washer, Cam Wick



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	149D693	1	Pump, Fuel Spec. A (Repl. 149C405 & 149C559)
2	PUMP, FUEL - BEGIN SPEC. B 149C567	1	Without Priming Lever - Key 2,4,5,6
	149C530	1	With Priming Lever - Key 1,3
3	154A252	2	Gasket, Intake Man. Mtg.
4	149C528	1	Adapter, FI. Pump - Begin Spec. B
5	149A277	1	Gasket, Fuel Pump to Adapter Begin Spec. B
6	149A388	1	Spacer, FI. Pump Mtg. - Spec. A
7	149A520	1	Spacer, FI. Pump Adapter Mtg. - Begin Spec. B
8	502-2	As Req.	Elbow, Fuel Line Connection Spec. A (3), Begin Spec. B (2)
9	868-3	2	Nut, Carburetor Stud
10	502-3	1	Connector, FI. Line - FI. Pump Out. - Begin Spec. B
11	149A519	1	Rod, Push - FI. Pump Adapter Begin Spec. B
12	149B79	1	Filter, Fuel - Spec. B to Serial 508834
	LINE, FUEL - PUMP TO CARBURETOR		
13	149A533	1	Begin Spec. B
14	149B403	1	Spec. A
15	159B407	1	Line, Fuel - Supply Con. to FI. Pump In. - Spec. A
16	149A171	1	Bracket, FI. Supply Con. - Spec. A

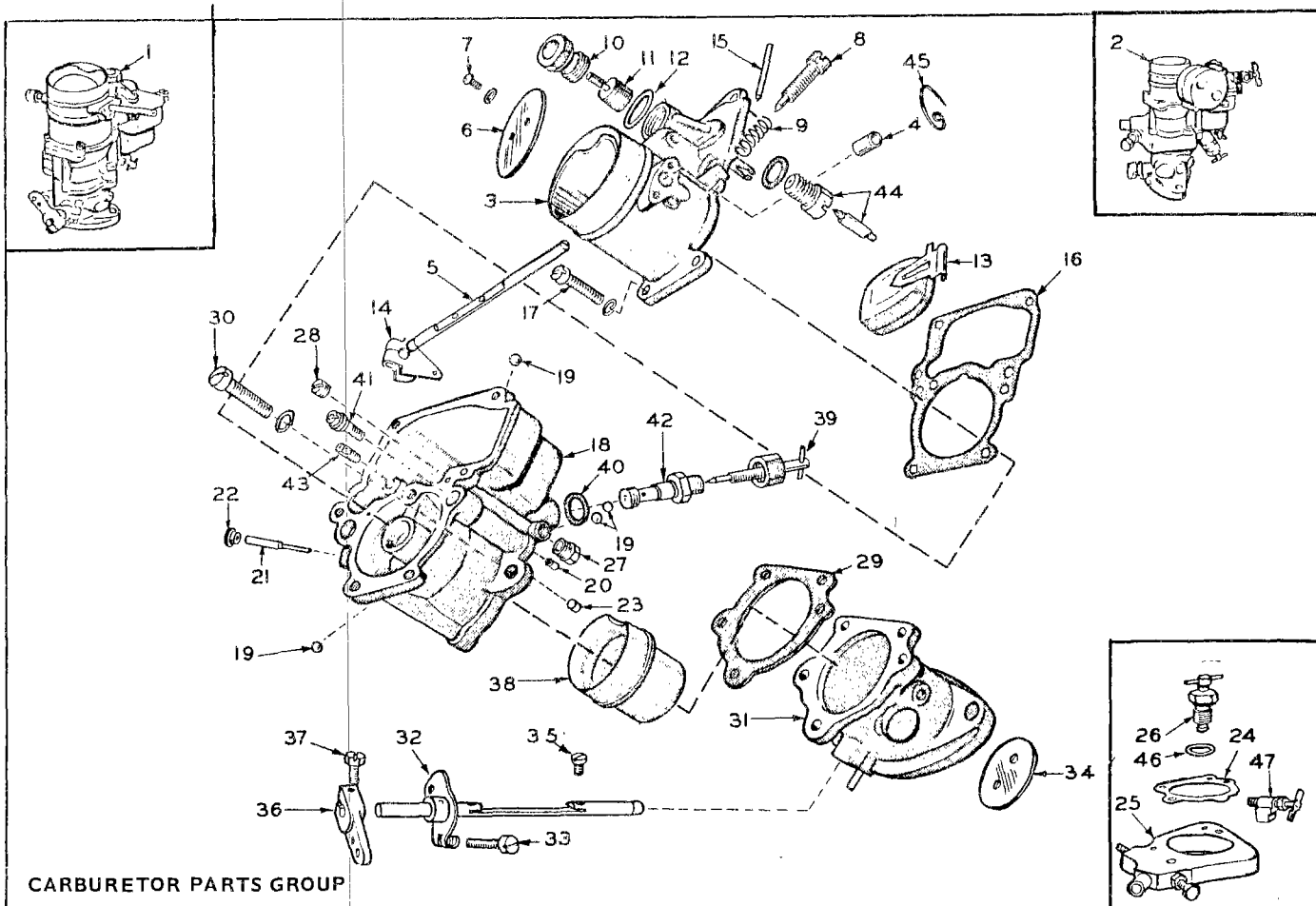
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
17	159A477	1	Bracket, FI. Line Support - Begin Spec. B
18	508-21	1	Grommet, Rubber - FI. Line Support Brkt. - Begin Spec. B
19	501A27	1	Line, FI Tank to Plant.
20	415A124	1	Cap, Rain - Rubber
21	415B126	1	Tank, FI. (5-Gal.) - Repl. 415A10
22	504A13	1	Valve, Shut Off - FI. Tank
23	CARBURETOR - GASOLINE		
	141C560	1	Key 1,2
	141C564	1	Key 3,5 (Also Key 4,6 - To Spec. F)
	141C621	1	Key 4,6 - Spec. F through K
	141C655	1	Key 4 - Begin Spec. L
24	154A133	1	Gasket, Carb. to Manifold
25	MANIFOLD, INTAKE		
	154D253	1	Key 1,2 - Spec. A (Note: Also for Key 4, X-RAY Only - Spec. A)
	154D314	1	Key 1,2 - Begin Spec. B (Note: Also for Key 4, X-RAY Only - Begin Spec. B)
	154A266	1	Key 3,4 - Spec. A (Note: For Key 4, X-Ray Only - Use 154D253)
	154D315	1	Key 3,4,5,6 - Begin Spec. B (Note: For Key 4, X-RAY Only Use 154D314)
26	800-52	2	Screw, Hex Hd. Mach. - Carb. to Man. (3/8-16 x 1-1/2) - Repl. 520A311)

# FUEL PUMP PARTS GROUP



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	149D693	1	Pump, Fuel - Spec. A (Repl. Blaking Mfr. Pump)
2	PUMP, FUEL - BEGIN SPEC. B		
	149C530	1	Key 1,3 (With Priming Lever)
	149C567	1	Key 2,4,5,6 (Less Priming Lever)
3			Body, Upper (Note Sold Separately)
4	149A96	2	*Valve & Cage
5	149A95	2	*Gasket, Valve
6	DIAPHRAGM & PULL ROD		
	149A582	1	**Spec. A
	149P276	1	£Begin Spec. B
7	SPRING, DIAPHRAGM		
	149A672	1	**Spec. A (Repl. 149A93)
	149P576	1	Begin Spec. B
8	RETAINER, VALVE		
	149A539	1	Spec. A (Repl. 149A84)
	149P575	1	Begin Spec. B
9	149A159	2	**Gasket, Valve Ret. - Spec. A (Blaking Mfr. Pump Only)
10	SPRING, ROCKER ARM		
	149A675	1	**Spec. A (Repl. 149A94)
	149P580	1	Begin Spec. B
11	PIN, ROCKER ARM		
	516A113	1	Spec. A (Repl. 516A25)
	149P578	1	Begin Spec. B
12	149-710	1	Arm & Link Set, Rocker (Sold only as a set) Spec. A
13	149P581	1	Arm, Rocker - Begin Spec. B
14	149A551	1	Lever, Primer - Spec. A (Onan Mfr. Pump Only)
15	509-65	2	Seal, O-ring - Primer Lever - Spec. A (Onan Mfr. Pump Only)
16	149A404	1	Spring, Priming Lever - Spec. A (Onan Mfr. Pump Only)
17	GASKET, MOUNTING		
	149A3	2	**Spec. A (Pump & Spacer Mtg.)
	149A277	1	£Begin Spec. B
18	518-129	1	Ring, E Retainer - Priming Lever Shaft - Spec. A (Onan Mfr. Pump Only)
19		1	Body, Lower (Not Sold Separately)
20	149P573	1	Bail, Bowl Retainer - Begin Spec. B
21	149A481	1	Bowl, Strainer - Begin Spec. B
22	815-148	4	Screw, Pump Assy., Spec. A
23	815-147	2	Screw, Valve Retainer, Spec. A
24	149P579	1	Link, Rocker Arm - Begin Spec. B
25	149P577	1	Bushing, Rocker Arm Pin - Begin Spec. B
26	149P483	1	Screen, Strainer - Begin Spec. B
27	149A275	1	£Gasket, Bowl - Begin Spec. B
28	149P793	1	£Seal, Diaphragm Pull Rod - Begin Spec. B - Note: Req. to maintain crankcase vacuum with pumps having lower body vent hole.
29	815-135	6	Screw, Body
30	850-30	6	Lockwasher, Body Screw
	REPAIR PARTS KIT, FUEL PUMP		
	149K526	1	Spec. A + Incl. Parts Marked * & **.
	149K106	1	Begin Spec. B - Incl. Parts Marked £ & *

Note: All parts listed for Begin Spec. B Mdls. are for AC Mfr. Pump only. Carter Mfr. Pump (used during Spec. B prior to serial 508834) parts are not available, use pump assembly 149C567.

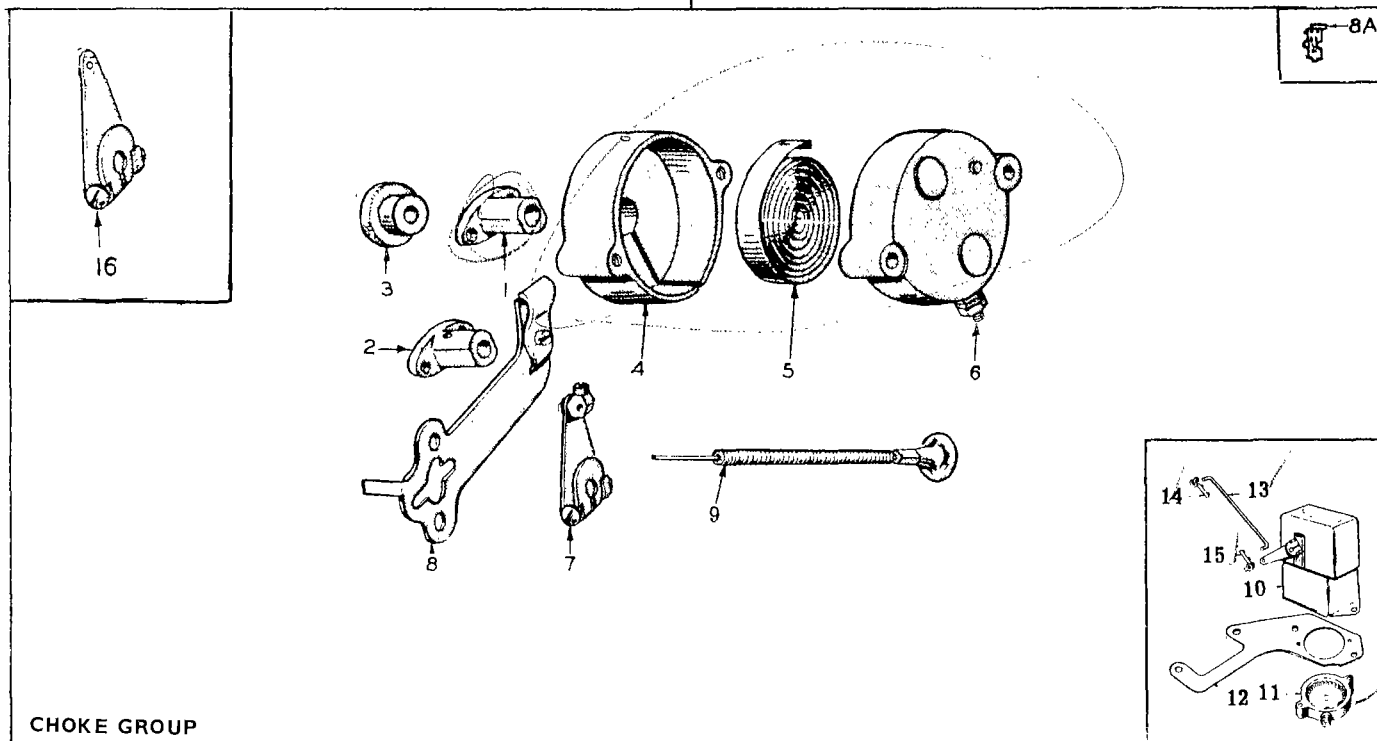


CARBURETOR PARTS GROUP

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	CARBURETOR - GASOLINE			14	153A214	1	Arm, Choke Shaft - Key 4,6 - Begin Spec. F
	141C560	1	Key 1,2	15	141-72	1	Axle, Float
	141C564	1	Key 3,5 ( Also Key 4,6 To Spec. F)	16	141-536	1	Gasket, Intake to Bowl
	141C621	1	Key 4,6 - Spec. F Through K	17	141-537	6	Screw, Intake to Bowl
	141C655	1	Key 4 - Begin Spec. L	18	141-538	1	Bowl, Fuel - Incl. Ref. 19 through 23
2	CARBURETOR - OPTIONAL FUEL			19	141-539	4	Plug, Lead - Bowl Passages
	141C492	1	Gas-Gasoline - Key 2	20	141-540	1	Bushing, Idle Channel
	141C494	1	Gas-Gasoline - Key 4 - To Spec. F	21	141-541	1	Jet, Blank - Accelerator
	141C622	1	Gas-Gasoline - Key 4,6 - Spec. F Through K	22	141-542	1	Plug, Jet Channel - Accelerator
	141C656	1	Gas-Gasoline - Key 4 - Begin Spec. L	23	141-543	1	Plug, Accelerator Pump Rod Channel
	141C562	1	Gas (Only) - Key 2	24	148A198	1	Gasket, Gas Adapter - Gas or Gas-Gasoline Carb. Only
	141C519	1	Gas (Only), Key 4,6	25	148B197	1	Adapter, Gas Fuel - Gas or Gas-Gasoline Carb. Only
3	BODY, AIR INTAKE - INCL. CHOKE SHAFT BUSH.			26	148A135	1	Lock, Float - Gas-Gasoline Carb. Only (Not needed replace with pipe plug.)
	141-530	1	To Spec. L	27	141-70	1	Plug, Bowl Drain
	141-666	1	Begin Spec. L	28	141-544	1	Plug, Power Jet Channel
4	141-531	1	Bushing, Choke Shaft - To Spec. L	29	141-545	1	Gasket, Bowl to Throttle Body
5	SHAFT, CHOKE			30	141-546	2	Screw, Bowl to Body
	141A478	1	Key 1,2,3,5 (Also Key 4,6 - To Spec. F)	31	141-585	1	Body, Throttle (Incl. Shaft, Plate & Brgs.)
	141-624	1	Key 4,6 - Begin Spec. F	32	141K586	1	Shaft & Lever Kit, Throttle - Incl. Stop Screw
6	PLATE, CHOKE			33	815-133	1	Screw, Lever Stop
	141-532	1	To Spec. L	34	141-551	1	Plate, Throttle
	141-667	1	Begin Spec. L	35	141-257	2	Screw, Throttle Plate
7	141-471	2	Screw, Choke Plate	36	141-552	1	Lever, Clamp - Throttle
8	141-8	1	Needle, Idle Adjusting	37	141-2	1	Screw, Throttle Lever Clamp
9	141-9	1	Spring, Idle Needle	38	VENTURI		
10	141-533	1	Plug, Fuel Filter Head		141-484	1	Key 1,2 - Gasoline Carb.
11	141-566	1	Filter, Fuel Inlet				
12	141-534	1	Washer, Gasket - Filter Plug				
13	FLOAT						
	141-535	1	Gasoline Carburetor				
	141A493	1	Gas-Gasoline Carb.				

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
	141P573	1	Key 3,4,5,6 - Gasoline Carb.
	148A195	1	Key 2 - Gas or Gas-Gasoline Carb.
	148A196	1	Key 4,6 - Gas or Gas-Gasoline Carb.
39	141-553	1	Jet & Adj. Needle Assy., Main
40	141A77	2	Washer, Main Adj. Needle & Fuel Valve
41	141-554	1	Jet, Idle
42	141-555	1	Jet, Discharge
43	141-556	1	Jet, Well Vent
44	141-323	1	Valve, Fuel Inlet

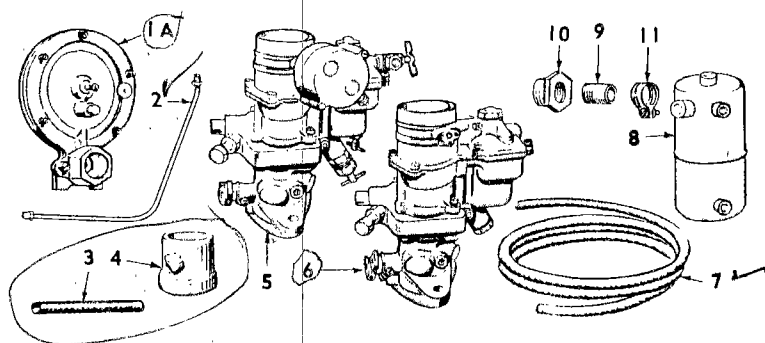
REF. NO.	PART NO.	QTY. USED	PARTS DESCRIPTION
45	141A501	1	Spring, Choke Stop - Gas-Gasoline Carb.
46	148A17	1	Gasket, Float Lock Bushing - Gas-Gasoline Carb.
47	504-7	1	Valve, Gasoline In. Shut-off
	141P590	1	Kit, Repair - Throttle Body Needle Bearing - Incl. Seal & Washer
	141-563	1	Kit, Repair - Carb.
	141-529	1	Kit, Gasket - Carb.



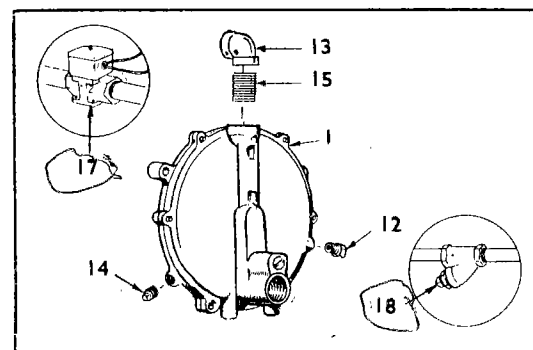
CHOKE GROUP

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	153A155	1	Adapter, Choke - For Gasoline (Only) Carb. - Key 2,5 (Also Key 4,6 - To Spec. F)
2	141A502	1	Adapter, Choke - For Opt. Gas-Gasoline Carb. - Key 2, 4,5, - To Spec. L (Note: Used only as choke lock for Key 4 Spec. F through K)
3	141A372	1	Knob, Choke Shaft - Key 2,5 (Also Key 4 - To Spec. F)
4	153A58	1	*Housing, Choke Bimetal - Key 2,5 (Also Key 4,6 - To Spec. F)
5	153-57	1	*Element, Bimetal - Key 2,5 (Also Key 4,6 - To Spec. F)
6	COVER, CHOKE - INCLUDES HEATING ELEMENT 153A162	1	*28-Volt - Key 2 (Also Key 4,6 To Spec. F)
	153A50	1	6-Volt - Key 5
7	LEVER, CHOKE SHAFT 145A60	1	Key 1,3
	145-172	1	Key 6
8	BRACKET, CHOKE CONTROL ROD - KEY 1,3,6 141A496	1	To Spec. L
	153A347	1	Begin Spec. L
8A	518P176	1	Clip, Choke Rod to Brkt. - Key 1,3 Begin Spec. L

REF. NO.	PARTS NO.	QTY. USED	PARTS DESCRIPTION
9	ROD, CHOKE CONTROL 141A497	1	Key 1,3
	153A18	1	Key 6
10	CHOKE, AUTOMATIC - SISSON - KEY 4,6 153P213	1	Spec. F through K
	153A337	1	Begin Spec. L
11	153A346	1	Cover, Choke - Incl. Htg. Element, Key 4,6, Begin Spec. F (Repl. 153A256)
12	153A252	1	Bracket, Auto. Choke - Key 4,6 - Begin Spec. F
13	LINKAGE, AUTOMATIC CHOKE - KEY 4,6 153A253	1	Gasoline (Only) Carb. - To Spec. L
	153A344	1	Gasoline (Only) Carb. - Begin Spec. L
	153A254	1	Optional Gas-Gasoline Carb. To Spec. L
	153A343	1	Optional Gas-Gasoline Carb. Begin Spec. L
	CLIP, END - CHOKE LINKAGE - KEY 4,6 - BEGIN SPEC. F		
14	518-5	1	Carburetor End
15	518-47	1	Choke End
16	153A214	1	Arm, Choke Shaft - Key 6 - Begin Spec. F



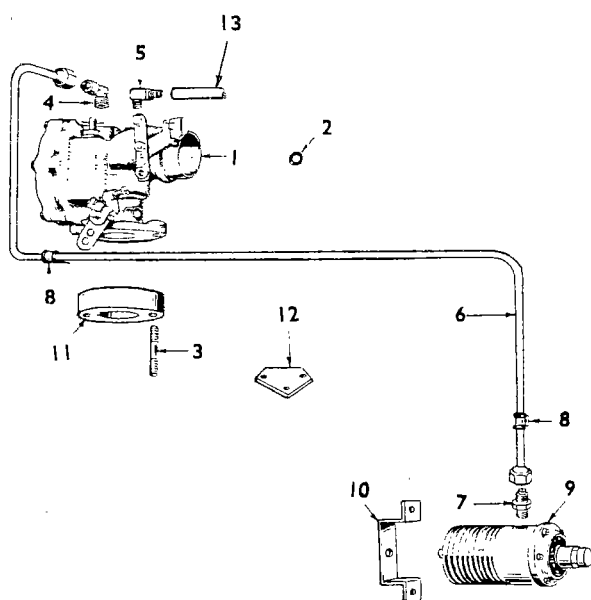
**OPTIONAL FUEL SYSTEM GROUP**  
(Combination Gas-Gasoline or Gas Only, Downdraft Carburetor)



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	REGULATOR, GAS (Check Reg. Nameplate for Manufacturer. Order Parts Accordingly) 148C311	1	Garretson Manufacture- Used Begin Serial 573571 - Key 2,4,6
1A	148A428	1	Ensign Manufacture - Used Prior Serial 573571 - Repl. 148A9 - Key 2,4
2	LINE, GASOLINE - PUMP TO CARB. - GAS-GASOLINE MDLS. - KEY 2,4,6 149B431 149A533	1 1 1	Spec. A Begin Spec. B
3	TUBE, BREATHER (Rubber) GAS-GASOLINE & GAS MODELS 123A412 503A267 123A415 503A266 503A275 503A318	1 1 1 1 1 1	Key 2 - Spec. A Key 2 - Begin Spec. B (Use with Ensign Reg. Only) Key 4 - Spec. A Key 4 - Begin Spec. B (Use with Ensign Reg. Only) Key 4,6 - Spec. B Through E (Use with Garretson Reg. Only) Key 4,6 - Begin Spec. F (Use with Garretson Reg. Only)
4	148A214	1	Choke, Gas Fuel - Key 4 (Use with Ensign Reg. Only)
5	CARBURETOR - GAS-GASOLINE 141C492 141C494 141C622 141C656	1 1 1 1	Key 2 Key 4 - To Spec. F Key 4,6 - Spec. F through K Key 4 - Begin Spec. L
6	CARBURETOR - GAS (Only) 141C562 141C519	1 1	Key 2 Key 4,6

REF. NO.	PART NO.	QTY. USED	PARTS DESCRIPTION
7	503-51	1	Hose, Gas Reg. to Carb. (42")
8	159B294	1	Tank, Reservoir - Gravity Feed - Gasoline - Key 2,4
9	505-135	1	Nipple, Half - Gas Reg. Out. Key 2,4
10	505-131	1	Bushing, Gas Reg. Out., Use with Ensign Reg. Only) - Key 2,4
11	CLAMP, GAS HOSE (Note: The O.D. of the Gas Fuel Hose varies, select appropriate clamps.) 503-27 503-32 503-49	2 2 2	3/4" O.D. Hose 7/8" O.D. Hose 15/16" O.D. Hose
12	148A107	1	Vent (Use with Garretson Reg. Only)
13	505-39	1	Elbow, Pipe - 3/8" (Used with Garretson Reg. Only) - Key 2,4
14	505-57	1	Plug, Pipe - 1/8" - Gas Reg. Key 2,4
15	505-101	1	Nipple, Pipe - 3/8" x 1" (Used with Garretson Reg. Only) Key 2,4
17	307P312	1	Valve, Sol. - Gaseous Fuel - Key 2,4
18	149-558	1	Strainer, Gaseous Fuel - Key 2,4
	148-300	1	Repair Kit, Gas Reg. (Ensign Model F)
	148-522	1	Repair Kit, Gas Reg. (Ensign Model FI)
	148-390	1	Repair Kit, Gas Regulator (Garretson)
	149A555	1	Cover, Crkcs. Fl. Pump Hole (Gas Only)

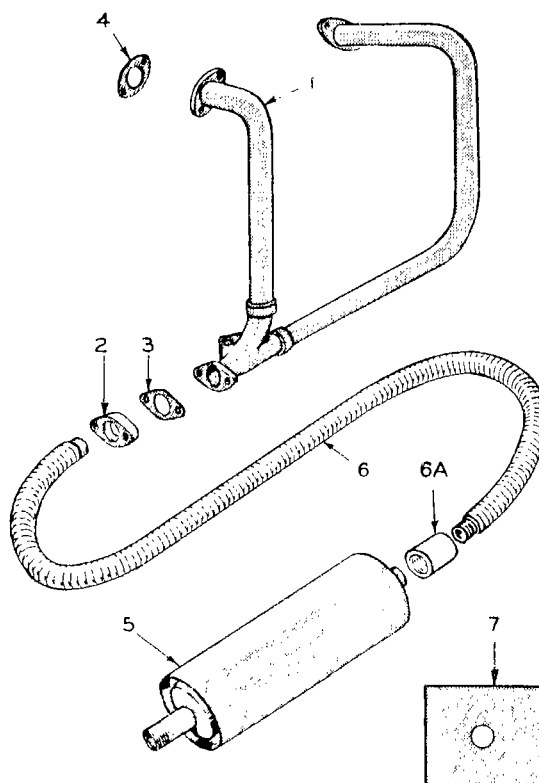
# OPTIONAL FUEL SYSTEM GROUP (Liquid Petroleum Gas Only)

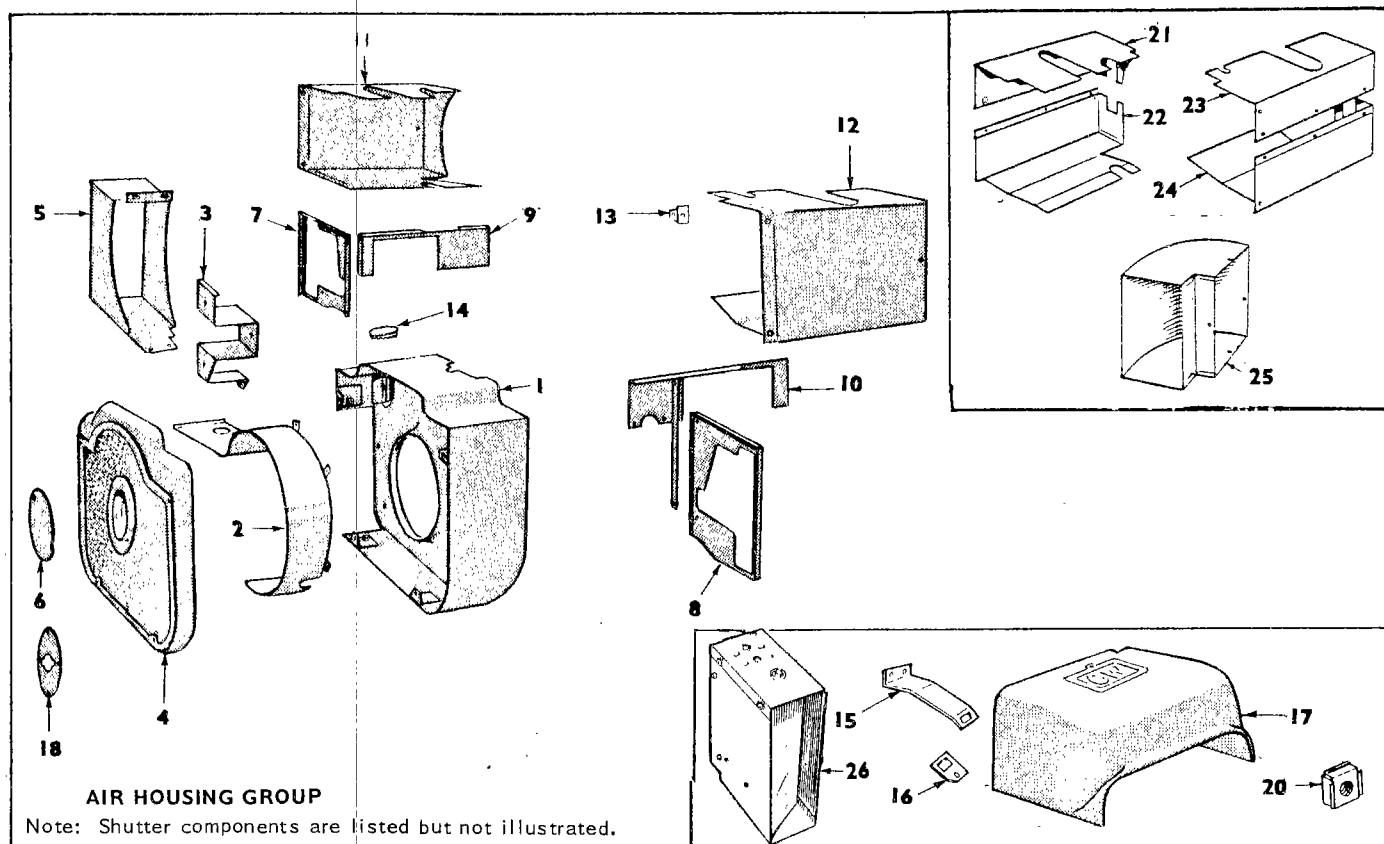


REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	141B671	1	Carburetor, Pressure - LPG Fuel - Combination Carb. & Press. Reg. (Components Not Available) - Repl. 141B637)
2	Describe	1	Seal, Throttle Shaft (Zenith 50-CT48-9) - Component of Carb. 141B637 & 141B671
3	520A429	2	Stud, Carb. Mtg. (3/8 x 2-1/2")
4	502-230	1	Elbow, Carb. Fl. In. (3/8" Male Pipe Thrd. by 3/8" Tube)
5	502-138	1	Elbow, Breather Hose to Carb.
6	148C429	1	Line, Fuel - Vapor. to Carb.
7	502-231	1	Union, Half - Vapor. Out. (1/4" Male Pipe Thrd. by 3/8" Tube)
8	332-50	2	Clip, Fuel Line to Eng.
9	148A418	1	Vaporizer Assy. (Mts. on Blower Hsg. Frt.)
10	148A423	1	Bracket, Vapor. Mtg.
11	145A231	1	Spacer, Carb. to Intake Man.
12	149A555	1	Cover, Crankcase Fuel Pump Hole
13	503A366	1	Tube, Breather (Rubber) - Air Cleaner

## EXHAUST GROUP

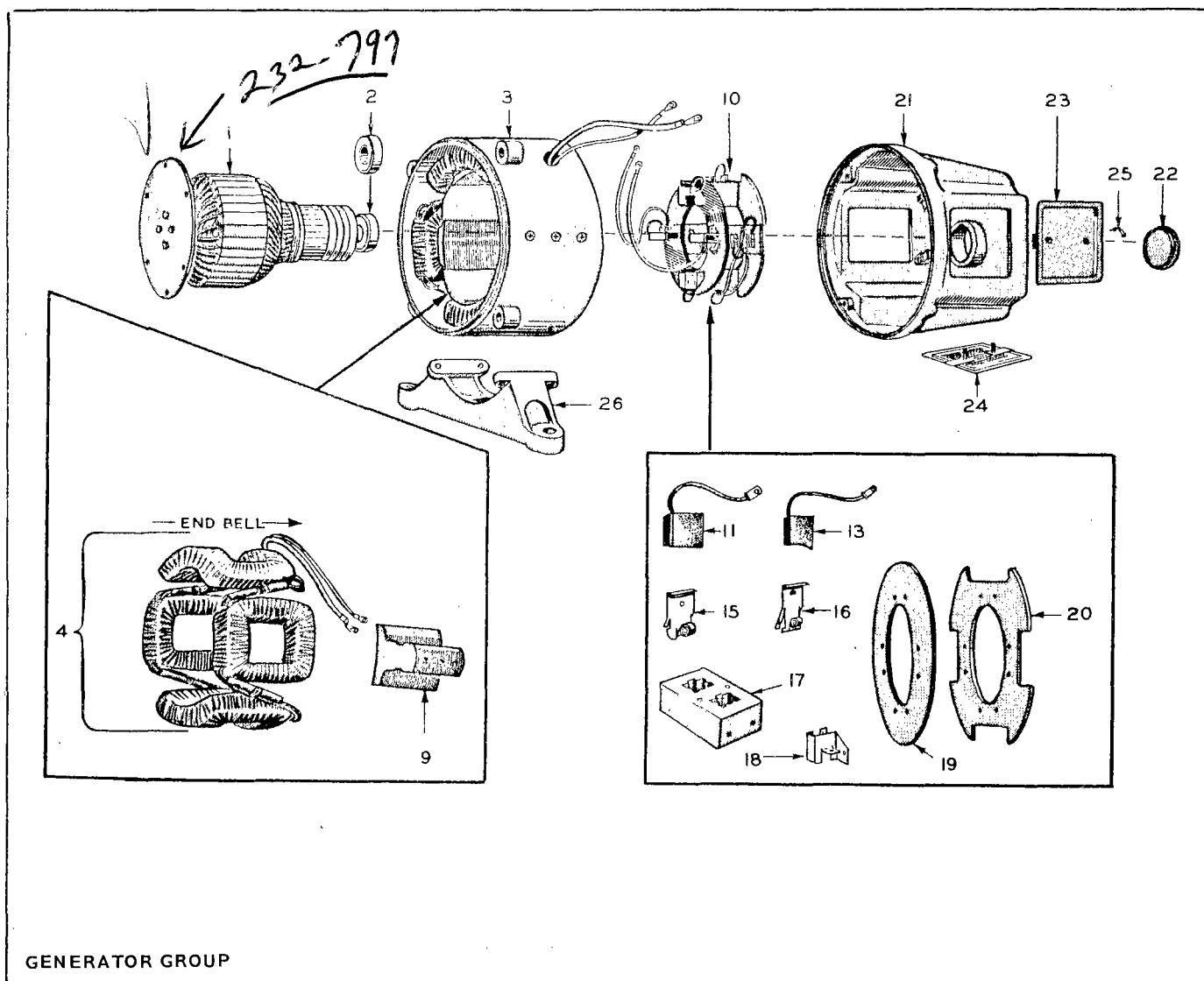
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	MANIFOLD, EXHAUST		
	155C352	1	Horizontal Outlet, All Except Key 6 (Specs. 2203 & 2537)
	154D562	1	Vertical Down, Optional
	154C727	1	Key 6 (Spec. 2203 Only)
	154D761	1	Key 6 (Spec. 2537 Only)
2	155A170	1	Adapter, Exh. Man. Out.
3	154A133	1	Gasket, Exh. Adapter
4	155A343	2	Gasket, Exh. Manifold
5	155B77	1	Muffler, Exhaust
6	155B492	1	Tube, Exh. - Flexible
6A	505-31	1	Coupling, Pipe - Exh. Tube
7	155A294	1	Plate, Wall - Exh. Tube





REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	HOUSING, BLOWER		
	134D394	1	Spec. A
	134D462	1	Key 1,2,3,4,6 (Except Spec. 2537)
	134D1228	1	Key 6 (Spec. 2537 Only)
	134D503	1	Key 5
2	SCROLL, BLOWER HOUSING		
	134D396	1	Key 1,2,3,4,5,6 (Except Spec. 2203)
	134A1095	1	Key 6 (Spec. 2203 Only)
3	134B397	1	Grille, Air Outlet
4	PANEL, BLOWER HSG. FRONT - WITH INTEGRAL CRANK GUIDE		
	134E999	1	All Except LPG Plts. & Key 6 (Spec. 2203 Only) - Repl. 134E408
	134B1020	1	LPG Plts. (With Prov. for Mtg. Vaporizer)
	134A1169	1	Key 6 (Spec. 2203 Only)
5	134D423	1	Adapter, Air Outlet
6	134B471	1	Cover, Crank Opening - Spec. B Only
7	134B398	1	Plate, Baffle - L.H. Cyl.
8	134B399	1	Plate, Baffle - R.H. Cyl.
9	134B402	1	Extension, L.H. Baffle Plate
10	134B403	1	Extension, R.H. Baffle Plate
11	SHROUD, LEFT HAND CYLINDER		
	134B437	1	Spec. A - Incl. Fasteners
	134D458	1	Begin Spec. B
12	SHROUD, RIGHT HAND CYLINDER		
	134B438	1	Spec. A - Incl. Fasteners
	134D459	1	Begin Spec. B, Key 1,2,3,4,6
	134D576	1	Key 5
13	134A487	2	Bracket, Shroud - Begin Spec. B
14	517-9	1	Plug, Button - Pre-Htr. Tube Air Out.
15	CATCH, SHROUD FASTENER - SPEC. A ONLY		
	134B414	1	Right Hand Lower
	134A413	1	Left Hand Lower

REF. NO.	PART NO.	QTY. USED	PARTS DESCRIPTION
16	CATCH, SHROUD FASTENER - SPEC. A ONLY		
	134A411	1	Right Hand Upper
	134A410	1	Left Hand Upper
17	150C454	1	Cover, Gov. Arm - Spec. A Only
18	192B266	1	Plate, Crank Support - Begin Spec. C & Discontinued During Spec. G
20	NUT, SPEED GRIP (Blower Housing)		
	870-110	2	1/4-20, Thin
	870-111	2	1/4-20, Thick
	870-114	4	5/16-18
21	134C1218	1	Shroud, Cyl. - Upper L.H. - Key 6 (Spec. 2428 Only)
22	134C1219	1	Shroud, Cyl. - Lower L.H. - Key 6 (Spec. 2428 Only)
23	134C1220	1	Shroud, Cyl. - Upper R.H. - Key 6 (Spec. 2428 Only)
24	134C1221	1	Shroud, Cyl. - Lower R.H. - Key 6 (Spec. 2428 Only)
25	134C1208	1	Elbow, Air Outlet Adapter - Key 6 (Spec. 2428 Only)
26	134C892	1	Shutter, Auto. - Air Discharge (Opt. Accessory) Repl. 134C884 - Applies Only to 6-1/2" Long Shutter Assy. Used After 1958 - Incl. Parts Marked * Plus Hdw.
	134D893	1	*Extension, Air Discharge Adapter
	134C880	1	*Plate, Vernatherm Element Mtg.
	134A885	1	*Shaft, Shutter & Pin Assy.
	134B660	1	*Bracket, Vernatherm Mtg.
	309P85	1	*Element, Vernatherm Power
	134A656	1	*Spring, Vernatherm Element
	134A658	1	*Spring, Shutter
	309P77	1	*Switch, High Air Temp. Cutoff
	160A144	1	*Strap, Switch Grd.
	332-47	3	*Clip, Lead Securing
	336A1090	1	*Lead, Switch to Stop Circuit



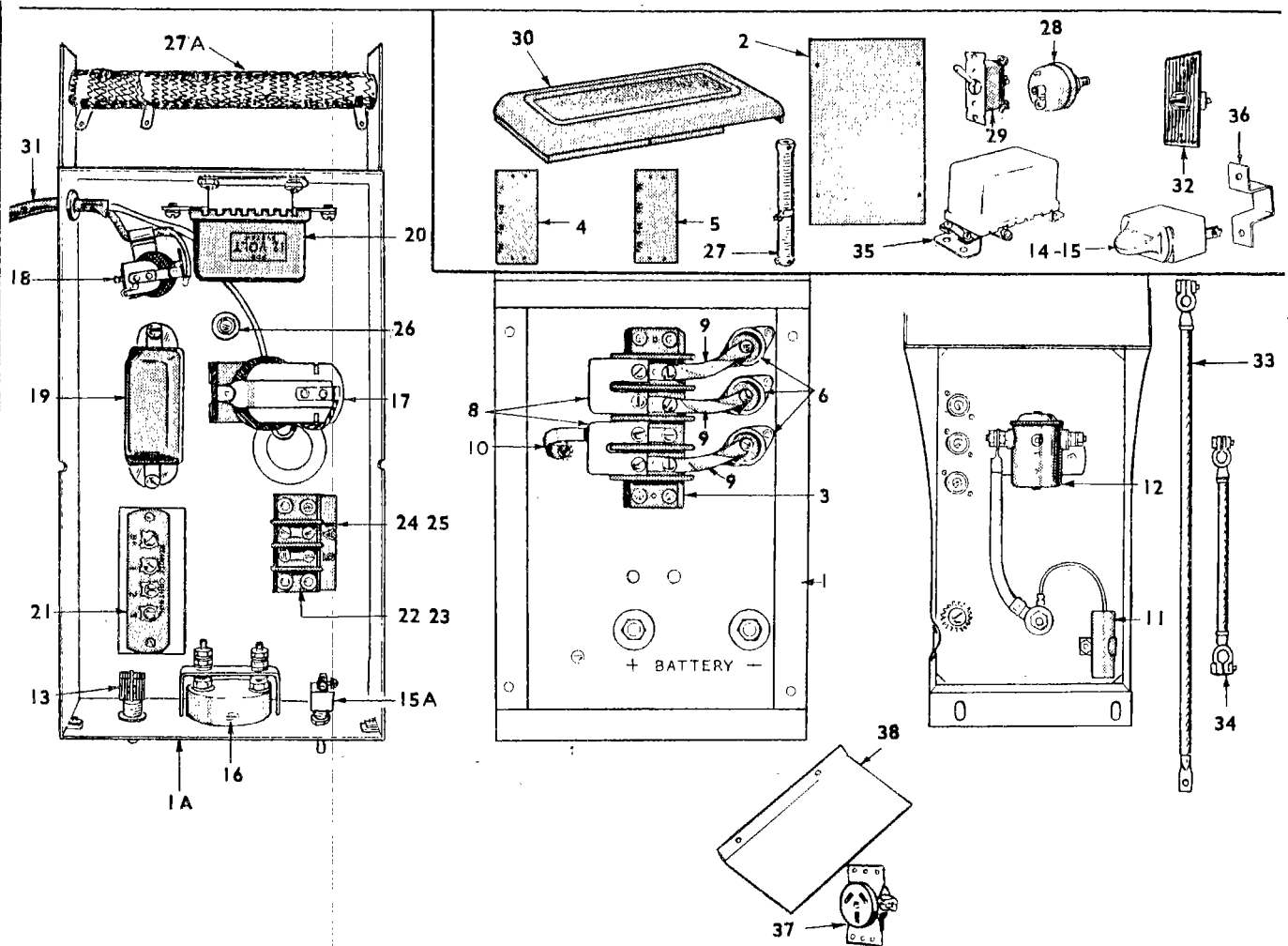
GENERATOR GROUP

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	*	1	Armature - Incl. Brg. & Drive Disc
2	510A52	1	Bearing, Ball - Armature (Repl. 510A2)
3	*	1	Frame - Machined & Drilled, Less Coils & Pole Shoes
4	*	1	Coil Set, Field - Set of 4
	*	1	Coil, Commutating (Interpole) Key 5
9	*	4	Shoe, Pole
10	*	1	Rig Assy., Brush - Incl. Brushes & Springs
11	BRUSH, COMMUTATOR -		
	214A45	4	Spec. A, Key 1,2,3,4
	214A57	4	Begin Spec. B, Key 1,2,3,4,6
	214A49	4	Key 5
13	BRUSH, COLLECTOR RING -		
	214A46	8	Spec. A
	214A54	8	Begin Spec. B (Some Plts. Use 6)
15	212B1106	4	Spring, Commutator Brush
16	212B1123	8	Spring, Coll. Ring Brush (Some Plts. Use 6)
17	212B1120	4	Block, Holder - Coll. Ring Brush
18	GUIDE, COMMUTATOR BRUSH		
	212A1121	4	Key 1,2,3,4,6
	212A1101	4	Key 5

REF. NO.	PART NO.	QTY. USED	PARTS DESCRIPTION
19	RING, INSULATOR - BRUSH GUIDE		
	213B106	1	Spec. A, All Key Nos.
	213B116	1	Begin Spec. B, Key 1,2,3,4,6
	213115	1	Key 5
20	SPIDER, BRUSH RIG MOUNTING		
	212B1119	1	Spec. A, All Key Nos.
	212B1138	1	Begin Spec. B, Key 1,2,3,4,6
21	BELL, END		
	211D76	1	Spec. A, All Key Nos.
	211D91	1	Begin Spec. B, Key 1,2,3,4,6 (Except Spec. 2206)
	211D90	1	Key 5
	211A140	1	Key 6 (Spec. 2206 Only)
22	COVER, BEARING		
	232A601	1	Key 1,2,3,4,6 (Except Spec. 2206)
	232A1031	1	Key 5 (Key 6, Spec. 2206 Only)
23	COVER, END BELL OPENING		
	232B814	3	Key 1,2,3,4,6 - Top & Sides
	232B1089	2	Key 5 - Top
	232B1093	1	Key 5 - Lower Left
	232B1162	1	Key 5 - Lower Right
24	232B841	1	Cover, End Bell Opening - Key 1,2,3,4,6 - Bottom
25	232A615	1	Clip, Bearing Stop
26	232C784	1	Support, Gen. Frame

\* - Order by part description, giving plant Model, Spec. and Serial Number.

for stop & choke update see Control section of Small older Books



CONTROL PARTS GROUP

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	BOX, CONTROL 301D857 301D990	1 1	Spec. A Begin Spec. B Through D, Key 1,2,3,4
	*	1	Key 6
1A	*	1	Panel, Control Box - Upper, Key 6
2	301B856	1	Cover, Control Box
3	BLOCK, TERM., LOAD CONNECTION 332A254 332A419	1 1	Key 1,2 - To Spec. E (3-7/8") Key 1,2 - Begin Spec. E, All Key 3,4,6 (6-1/4")
4	MARKER, TERMINAL BLOCK 332A435	1	Key 1,2 - To Spec. E (M1,M2, M3,M4)
	332A434	1	Key 1,2 - To Spec. E (M1,M2, M3,M0)
5	MARKER, TERMINAL BLOCK 332A437	1	Key 1,2 - Begin Spec. E, All Key 3,4,6 (M1,M2,M3,M4)
	332A436	1	Key 1,2 - Begin Spec. E, All Key 3,4 (M1,M2,M3,M0)
6	CONDENSER, LOAD TERMINAL 312A22 312P87	2 3	Spec. A (Some Plants Use 3) Begin Spec. B
8	JUMPER, TERM. - VOLT. SELECTION - 1-PHASE PLANTS 332A439 332A440	2 2	Key 1,2 - To Spec. E Key 1,2 - Begin Spec. E, All Key 3,4,6
9	332A484	3	Jumper, Term. to Condenser - Key 1,2,3,4,6

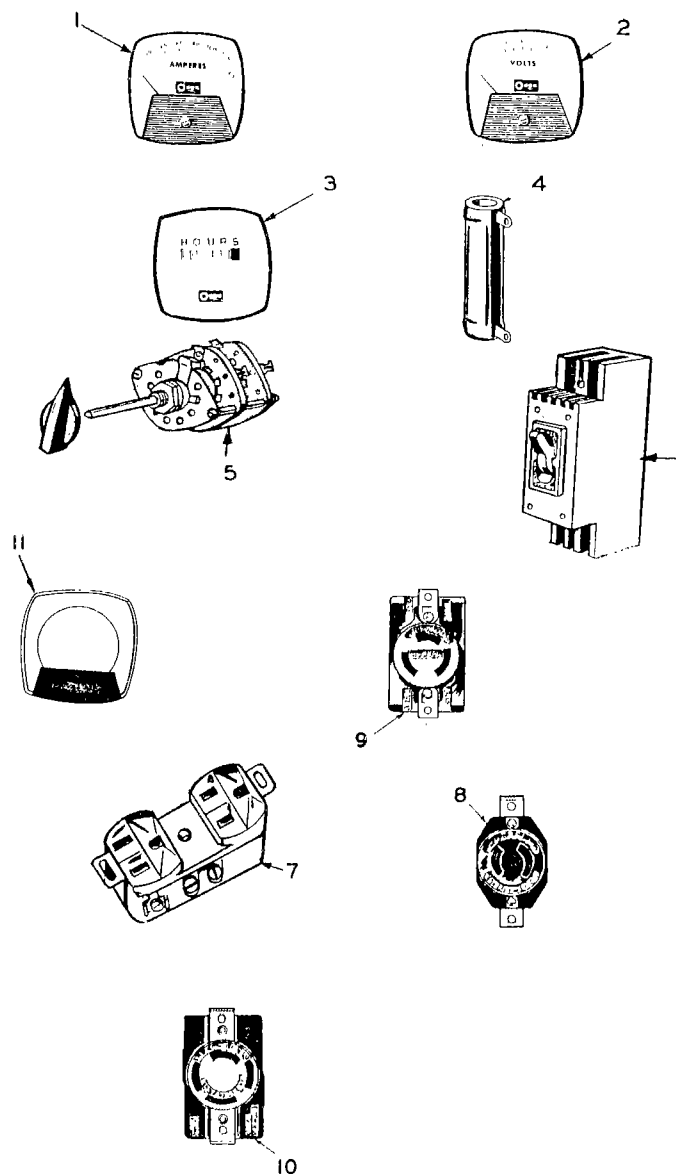
REF. NO.	PART NO.	QTY. USED	PARTS DESCRIPTION
10	332A464	1	Jumper, Term. to Grd., Key 1, 2,3,4,6
11	312A17	1	Condenser, Battery Pos. Term. - Key 1,2,3,4,6
12	307B40	1	Relay, Sol. - Start - Key 1,2, 3,4,6
13	308-2	1	Switch, Hand or Elec. Start - Key 2,4,6
	SWITCH - START & STOP		
14	308-26	1	Key 2,4 - Spec. A
15	308-90	1	Key 2,4,5,6 - Begin Spec. B (Mts. in Rect. Hole) - To Repl. Use 308A166
15A	308PI54	1	Key 2,4,5,6 - Use Began During Spec. J (Mts. in Round Hole)
16	AMMETER, CHARGE 302-58 302-60	1 1	Key 2,4,6 Key 5
17	306A28	1	Relay, Start Disc., Key 2,4,6
18	RELAY, STOP 307B52 307B253	1 1	Key 2,4 - Spec. A Key 2,4,6 (Except Plts. With Manual Choke) Begin Spec. B
19	307BI80	1	Relay, Reverse Current - Key 2,4,6
20	305A1	1	Regulator, Volt. - Chg. Circuit Key 2,4,6
21	332A222	1	Block, Term. - Remote Control Key 2,4,6
22	BLOCK, TERMINAL 332A406	1	3-Place - Key 2,4, Spec. A-- Key 5

REF. NO.	PART NO.	QTY. USED	PARTS DESCRIPTION
23	332A333	1	2-Place - Key 2,4,6 - Begin Spec. B
	MARKER, TERMINAL BLOCK		
24	332A438	1	Key 2,4 - Spec. A (4,5,6)
25	332A483	1	Key 2,4,6 - Begin Spec. B (5,A1)
	332A426	1	Key 5 (1,2,3)
26	RESISTOR, VOLTAGE REGULATOR - KEY 2,4,6		
	304-121	1	Spec. A (10-Ohm, 10-Watt)
	304-251	1	Begin Spec. B (30-Ohm, 5-Watt)
	RESISTOR, CHARGE - KEY 2,4		
27	304A256	3	To Spec. H (6-Ohm, 75-Watt)
27A	304A483	1	Begin Spec. H (3 - 6-Ohm, 225-Watt)
28	309-10	1	Switch, Ign. Cut-Off - Low Oil Press. (Opt.)
29	308-97	1	Switch, Low Oil Press. Switch By-Pass (Repl. 308-37) Opt.
30	301C853	1	Cover, Control Box - Key 2,4,6
31	*		Cable, Stop & Choke Circuits Key 2,4,6 ✕
32	SWITCH, REMOTE CONTROL START - STOP		

REF. NO.	PART NO.	QTY. USED	PARTS DESCRIPTION
	308A165	1	Key 2,4 (Repl. 308A94)
	308A9	1	Key 6
33	CABLE, BATTERY		
	416A77	2	Key 2,4,5,6 (Except Spec. 2428)
	416A38	2	Key 6 (Spec. 2428 Only)
34	416A4	1	Cable, Battery Jumper, Key 2,4,6 (Repl. 416A1)
35	307B597	1	Relay, Choke Disconnect - Key 4,6 Spec. F Through K (Repl. 307B4) Not used on plts. with manual choke.
36	301A974	1	Bracket, Start-Stop Switch Mtg., Key 2,4,5,6 For 308-90 Switch Only)
37	323A207	1	Receptacle, Key 6 (Spec. 2206 Only)
38	301A878	1	Plate Control Box Panel - Key 6
	303-84	1	Rheostat, Volt. Control., Key 5

\* - Order by description giving complete Model, Spec., and Serial Number.

#### OPTIONAL AC METER PANEL EQUIPMENT GROUP



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	AMMETER		
	302-335		0-20 Amperes
	302P418	As	0-30 Amperes (Repl. 302-5)
	302P444	Req.	0-35 Amperes
	302P419		0-50 Amperes (Repl. 302-7)
2	VOLTMETER		
	302P420	As	0-150-Volts (Repl. 302-40)
	302P421	Req.	0-300-Volts (Repl. 302-41)
3	METER, RUNNING TIME - 115-V		
	302-212	1	60-Cycle
	302-102	1	50-Cycle
4	RESISTOR, RUNNING TIME METER		
	304P99	1	230-V
	304P125	1	460-V
5	308-12	1	Switch, Selector - Voltmeter
6	CIRCUIT BREAKER		
	320P18	As	20-Amperes
	320P19	Req.	25-Amperes
	320P58		30-Amperes
	325K2		35-Amperes
	320P52		50-Amperes
7	323P184	As Req.	Receptacle Dup - 2-Wire Plus Ground - 15-Amp
8	323-23	As Req.	Receptacle, 2-wire Twistlock 20-Amp
9	323-11	As Req.	Receptacle - 3-wire Twistlock 20-Amp
10	323-91	As Req.	Receptacle - 4-wire Twistlock 20-Amp
11	302B448	As Req.	Plate, Meter Face

# STARTING MOTOR & CHARGING GENERATOR GROUP (Not Illustrated)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
	191P86	1	*Motor, Starting - 6-V
	191A116	1	Jumper, Starter Connection - Copper
	191PI05	1	**Generator, Charge - Incl. Reg. 6-V
	191C90	1	Guard, Belt - Charge Gen.
	511P37	1	Belt, Generator Drive
	512P25	1	Pulley, Generator
	515A7	1	Key, Generator Pulley
	191B91	1	Bracket, Generator

\* - For service or parts, contact Prestolite service, giving starter no. from nameplate.

\*\* - For service or parts, contact Delco service, giving generator no. from nameplate.

## THE FOLLOWING SPECIAL CONTROL PARTS ARE OPTIONAL AS USED ON MODEL KEY 6, SPEC. 1850 ONLY (Not Illustrated)

Note: Control box is wall mtd. type. AC output leads are terminated in Junction Box.

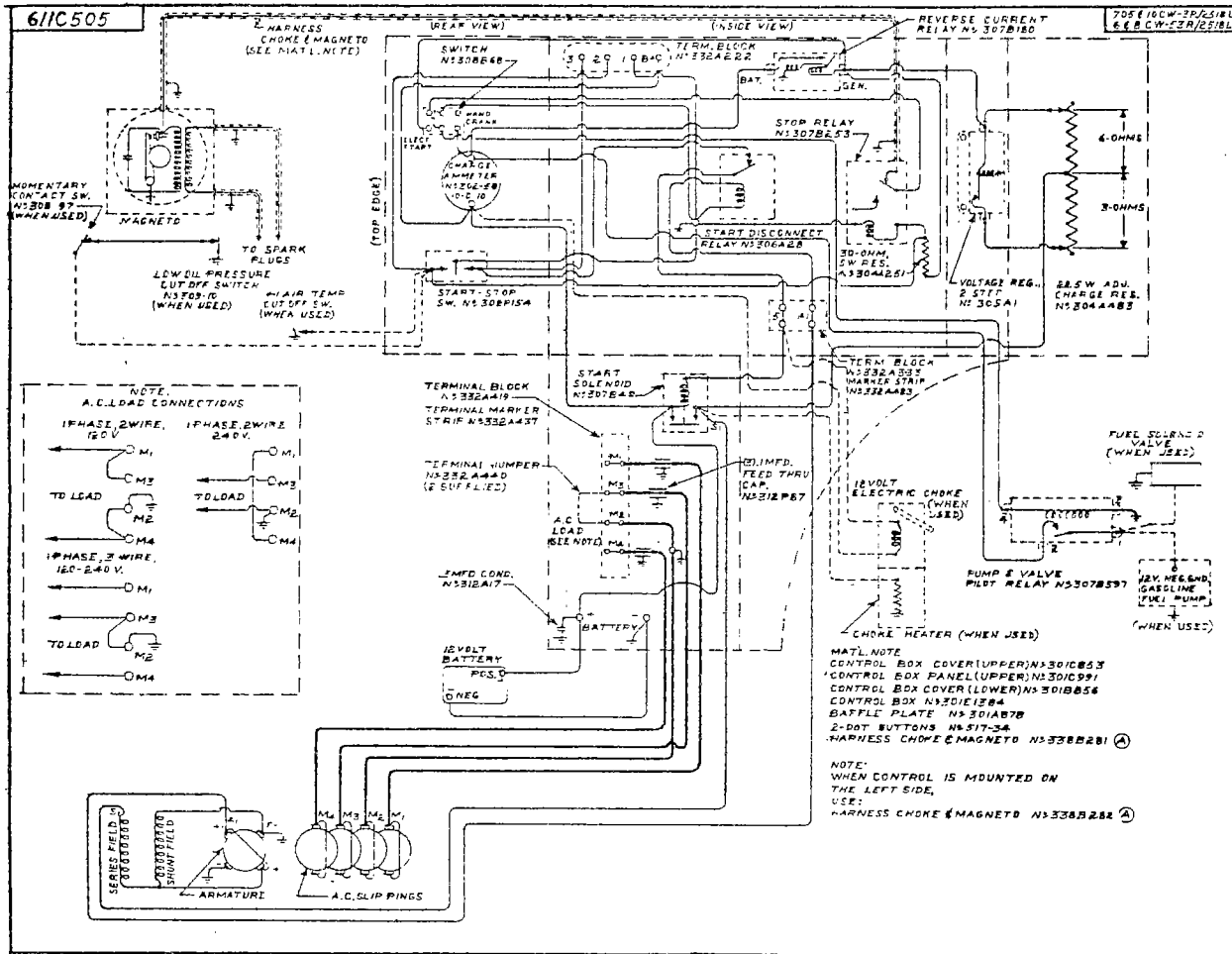
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
	302-212	1	Meter, Running Time
	308-68	1	Switch, Run-Stop-DRDT
	332A607	1	Block, Term. - 12-Place
	332A642	1	Strip, Marker - Blank
	308A29	1	Switch, Start
	338C235	1	Harness, Wiring
	301D1852	1	Box, Control
	301B1853	1	Panel, Control Box
	301C1854	1	Bracket, Control Box Mtg.
	301B1855	1	Box, Resistor
	508-26	1	Grommet, Rubber (3/8") Mtg. Bracket
	508-1	1	Grommet, Rubber (3/4") Output Box
	508-8	1	Grommet, Rubber (1/2") Output Box
	330-28	1	Box, AC Output
	330-6	1	Cover, AC Output Box

## SERVICE KITS

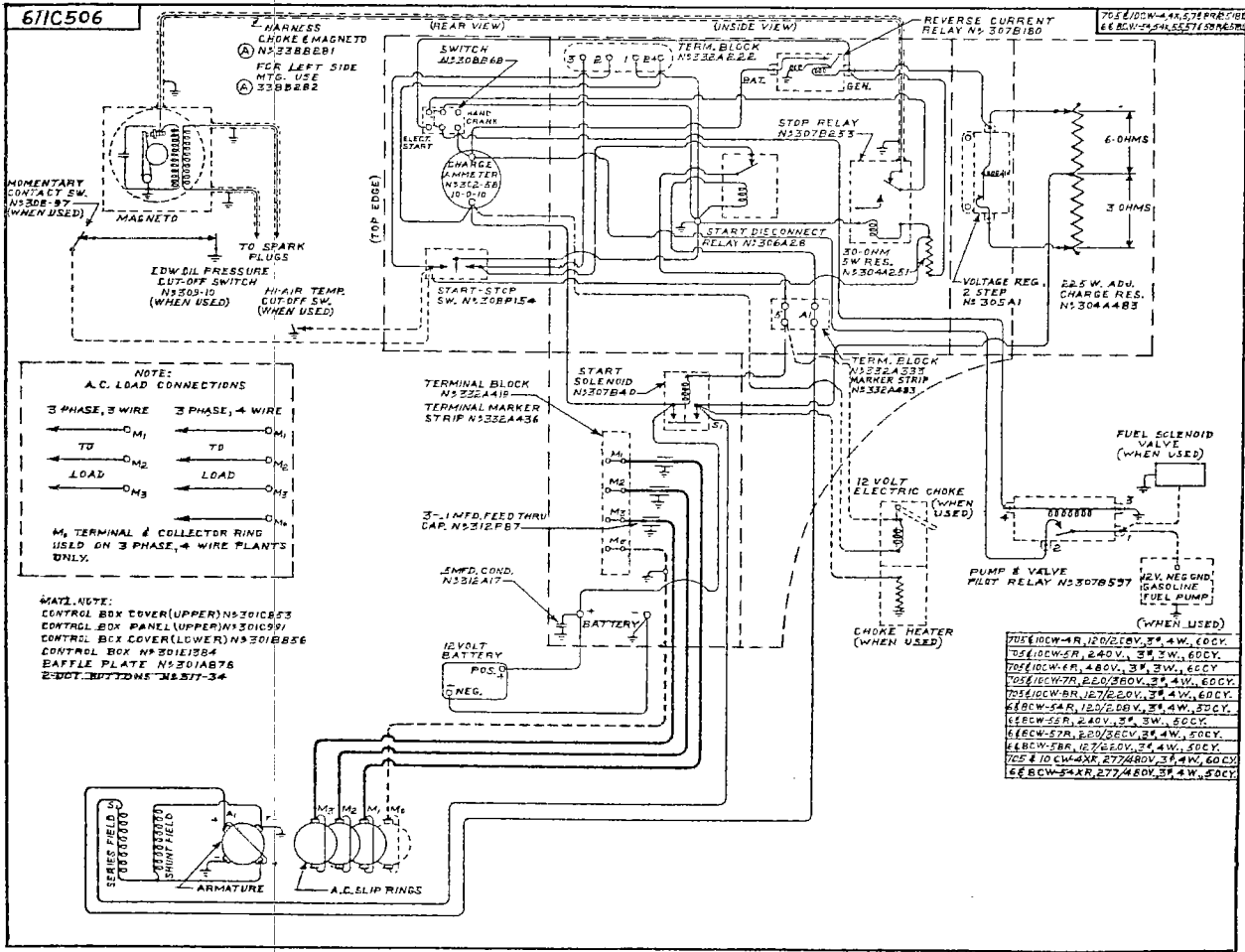
Note: For other kits, refer to the group for the part in question.

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
	168K56	1	Gasket Kit, Plant - Complete
	525P90	As Req.	Paint, Touch-up (Press. Can) 12-oz. - Mouse Grey Enamel
	525PI37		Paint, Touch-up (Press. Can) 16-oz. - Green Enamel
	522KI31	1	Overhaul Kit, Spec. A Only Key 1,2,3,4
	522KI38	1	Overhaul Kit, Spec. B through J - Less Fuel Pump Kit - Key 1,2,3,4
	522K210	1	Overhaul Kit, Spec. K through L - Less Fuel Pump Kit - Key 1,2,3,4

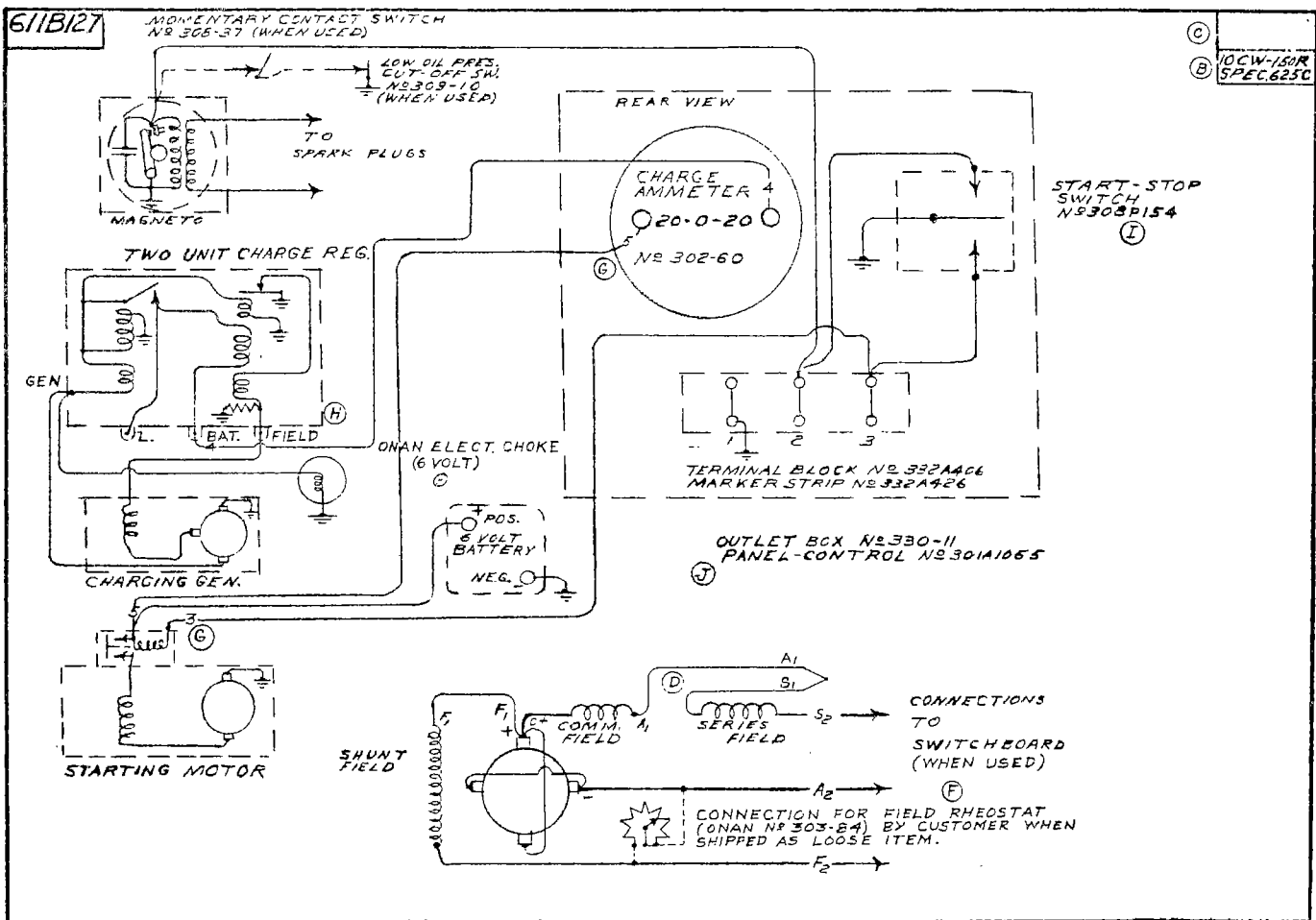
WIRING DIAGRAM #611C505  
SINGLE PHASE MODELS  
PENN STATE GASEOUS FUEL PLANTS  
BEGIN SPECIFICATION "L"



BEGIN SPECIFICATION "L"

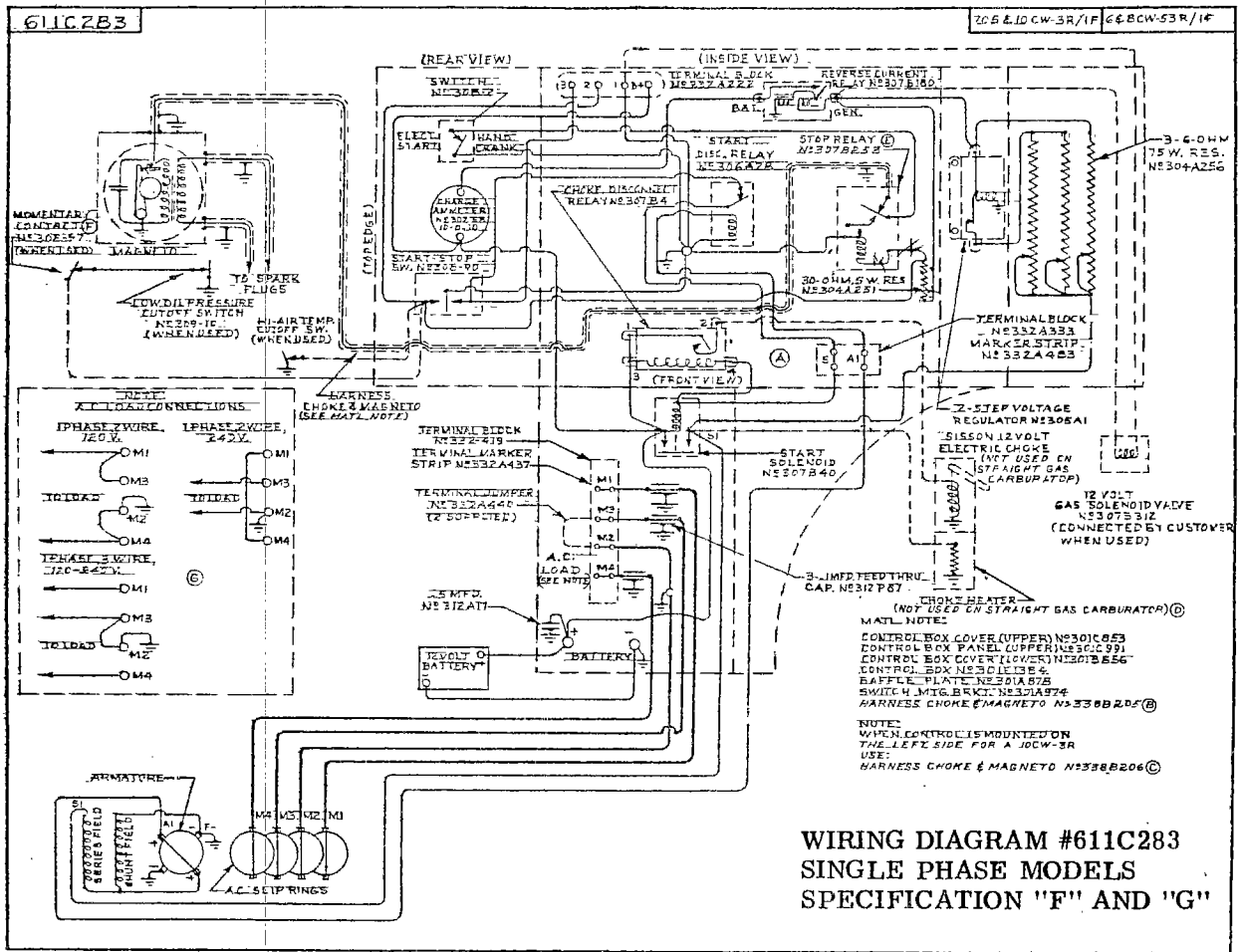


WIRING DIAGRAM  
# 611B127  
250 VOLT, DC MODEL  
MAGNET USE PLANT

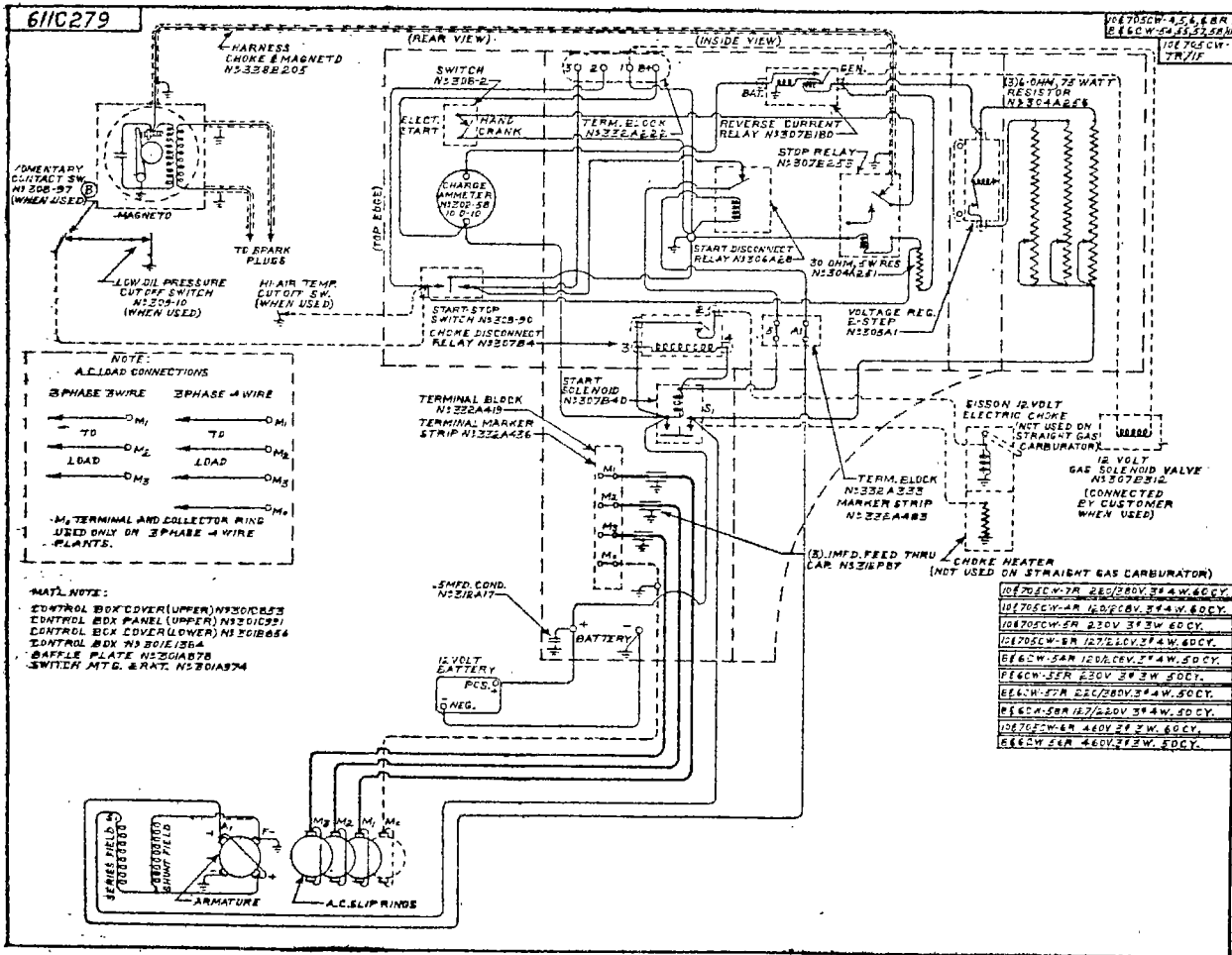


# WIRING DIAGRAMS

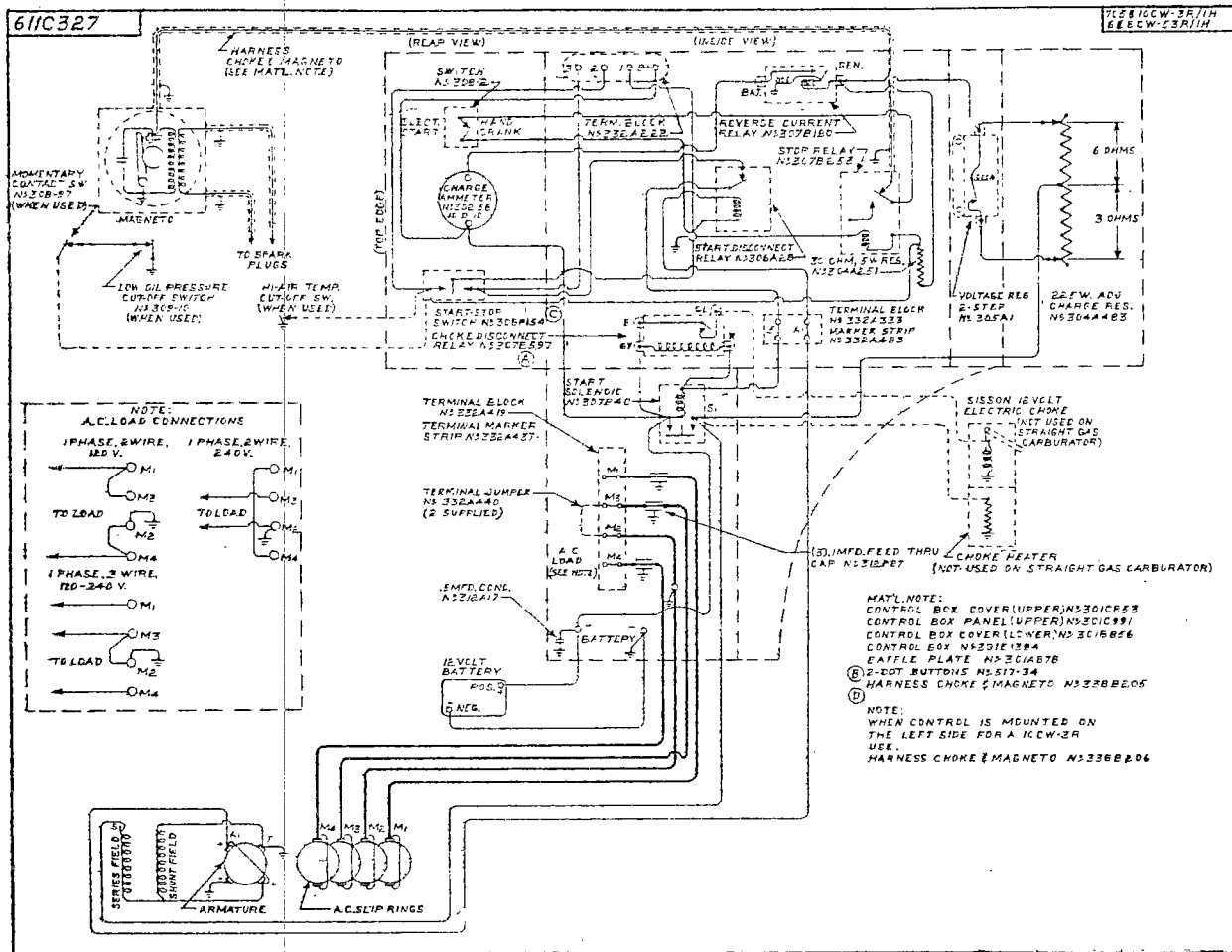
DIAGRAMS ARE SHOWN FOR STANDARD PLANTS BEGINNING WITH SPEC LETTER F. DIAGRAMS FOR PLANTS PRIOR TO SPEC F AND SPECIAL MODELS ARE AVAILABLE. GIVE COMPLETE MODEL, SPEC AND SERIAL NUMBER AS SHOWN ON THE PLANT NAMEPLATE.



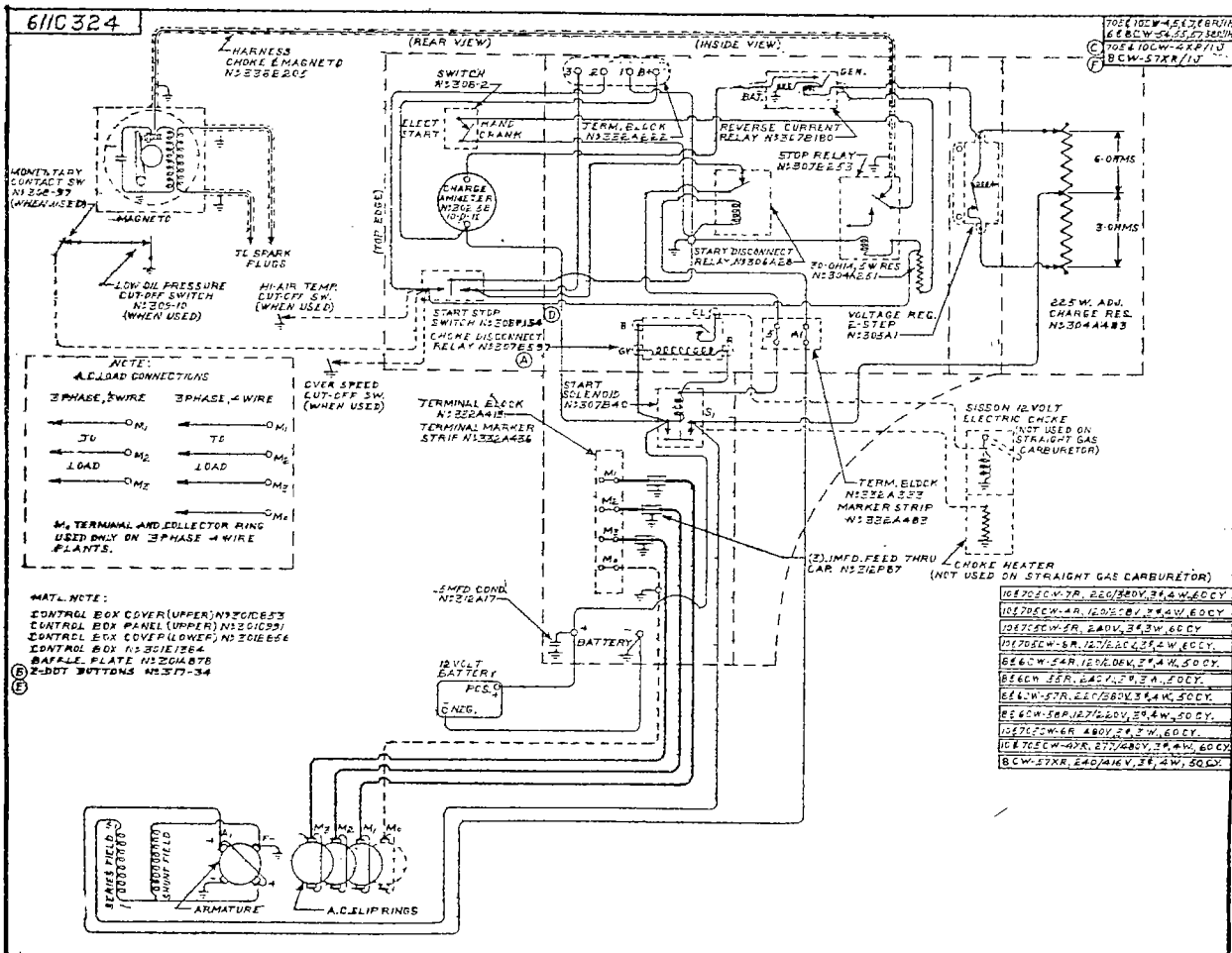
**WIRING DIAGRAM #611C279  
THREE PHASE MODELS  
SPECIFICATION "F" AND "G"**



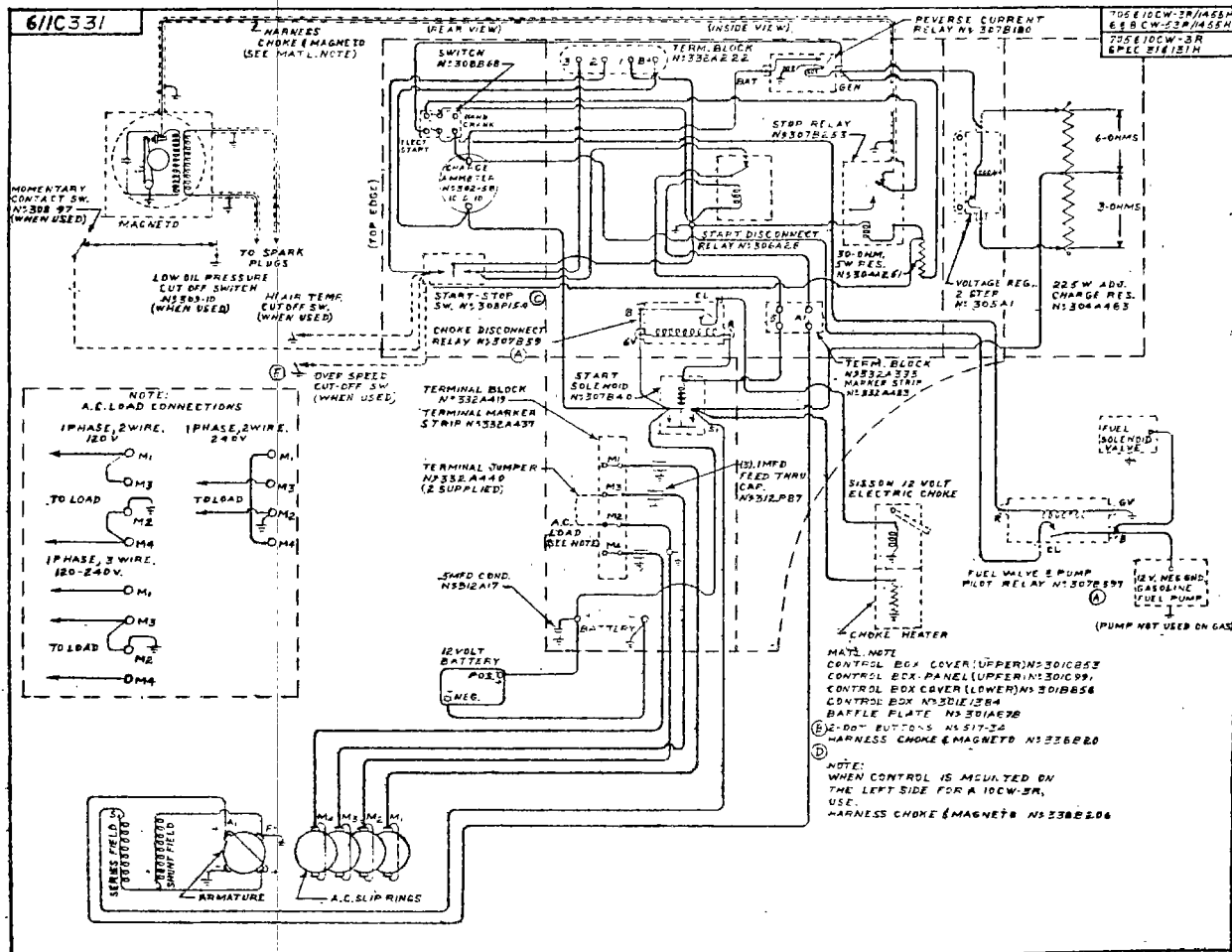
**WIRING DIAGRAM #611C327**  
**SINGLE PHASE MODELS**  
**SPECIFICATION "H", "J", "K"**  
**(Also Penn State Gasoline Plants)**



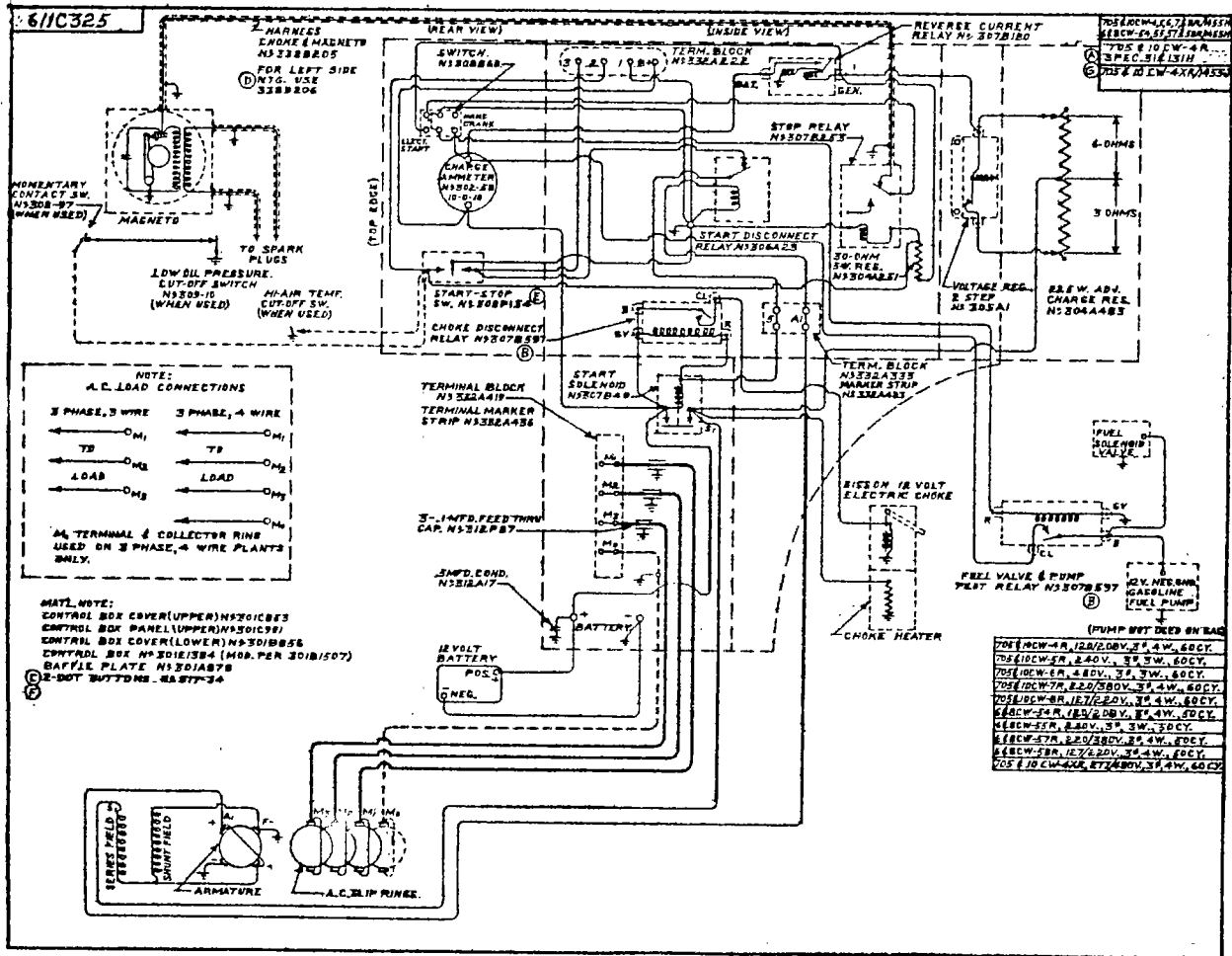
**WIRING DIAGRAM #611C324  
THREE PHASE MODELS  
SPECIFICATION "H", "J", "K"  
(Also Penn State Gasoline Plants)**

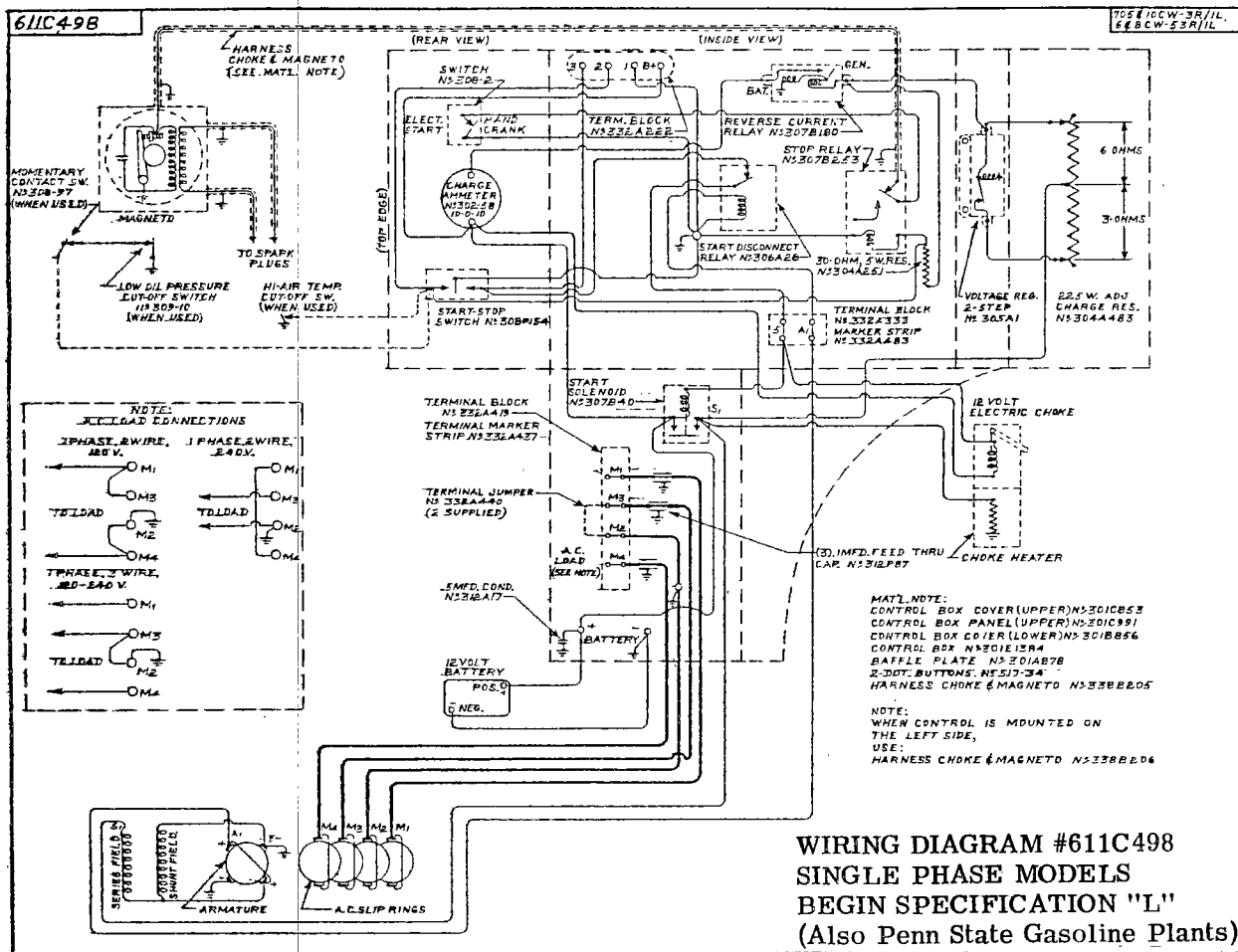


WIRING DIAGRAM #611C331  
SINGLE PHASE MODELS  
PENN STATE GASEOUS FUEL PLANTS  
SPECIFICATION "H", "J", "K"

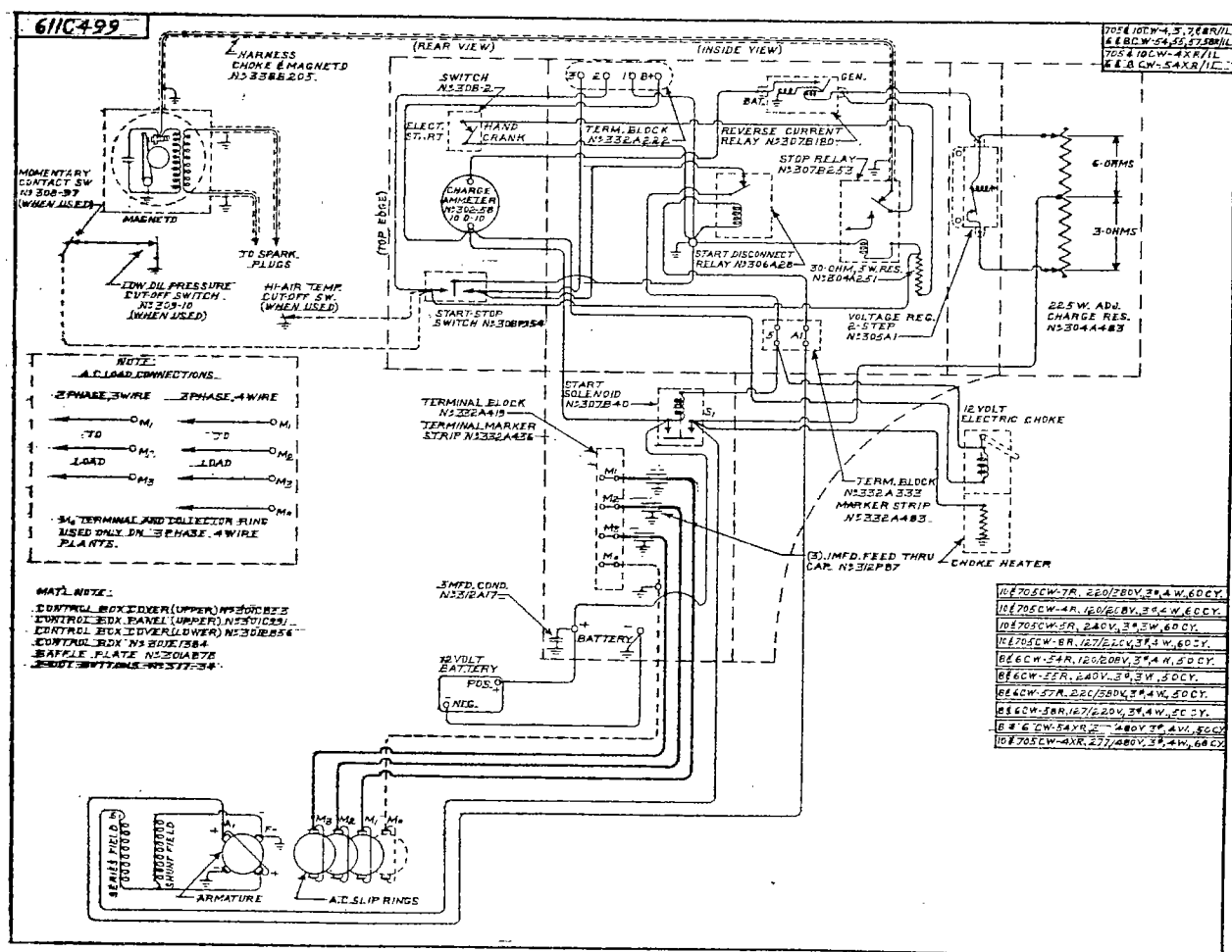


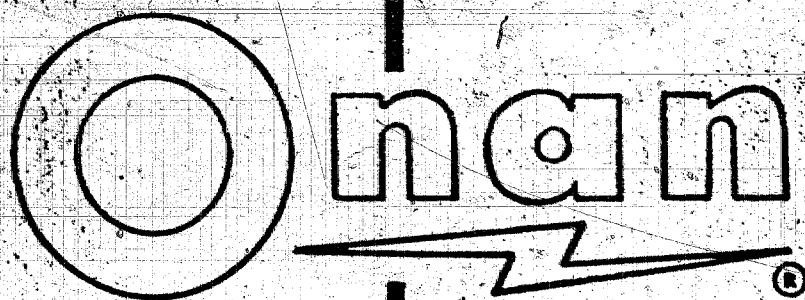
## SPECIFICATION "H", "J", "K"





WIRING DIAGRAM #611C499  
THREE PHASE MODELS  
BEGIN SPECIFICATION "L"  
(Also Penn State Gasoline Plants)





## **PARTS CATALOG**

### **SERIES CW Welder**

**ONAN**

ENGINE/GENERATOR DIVISION  
**Studebaker**  
CORPORATION

**2515 UNIVERSITY AVE. S.E. MINNEAPOLIS, MINN. 55414**  
IN CANADA: ONAN GENERATORS CANADA LTD., P.O. BOX 852, GUELPH, ONTARIO

PART NO.	DESCRIPTION	QUANTITY USED
CRANKCASE GROUP		
101C193	Crankcase - Incl. Camshaft & Main Brgs, Rear Brg. Plate Mtd. - Less Studs and Rear Oil Seal, Plugs .....	1
101A70	Bearing, Camshaft - Front .....	1
101A50	Bearing, Camshaft - Rear .....	1
101B119	Plate Assembly, Rear Main Bearing - Incl. Brg. and Lock Pin .....	1
101A68	Bearing, Main - Front or Rear .....	2
516A72	Pin, Lock - Main Bearing .....	2
505-274	Plug, Pipe, Countersunk Hd. ....	4
517-18	Plug, Expansion - Rear Camshaft Brg. Opening .....	1
502-2	Elbow, Inverted Flare - Oil Lines .....	2
520A11	Stud, Rear Bearing Plate - 5/16 x 1-7/16 .....	8
520A431	Stud, Cylinder Base - 1/2 x 2-5/16 .....	8
520A434	Stud, Cylinder Base - 3/8 x 1-13/16 .....	2
520A432	Stud, Oil Base - 7/16 x 3-1/16 .....	2
520A433	Stud, Oil Base - 7/16 x 2-1/8 .....	2
520A9	Stud, Gear Cover - 5/16 x 1-7/8 .....	7
520A118	Stud, Flywheel Housing - 3/8 x 1-1/2 .....	6
509-48	Seal, Oil - Rear .....	1
101K116	Gasket Kit - Rear Bearing Plate - 2 ea. .006", .015" .....	1
110A647	Gasket, Valve Compartment Cover .....	2
110B640	Cover, Valve Compartment .....	2
526-63	Washer, Copper - Cover Screw Gasket ..	2
110A707	Nut, Hex - Hardened - 1/2" - 20 - Cylinder Base Mounting. ....	8
104A91	Nut, Hex - Hardened - 3/8-24 - Cylinder Base Mtg. ....	2
101B215	Housing, Flywheel .....	1
403A95	Bolt, Eye - Lifting .....	1

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### OIL PUMP, OIL FILTER AND BY-PASS GROUP

120A222	Piston Valve, Oil By-Pass .....	1
120A270	Spring, Oil By-Pass Piston Valve .....	1
526-69	Washer, Oil By-Pass Screw - Copper .....	1
120A224	Screw, Oil By-Pass .....	1
120A279	Pump, Oil .....	1
120A192	Gasket, Oil Pump Mtg. ....	1
120B275	Cup, Intake - Oil Pump .....	1
122C89	Bracket, Oil Filter .....	1
122C56	Filter, Oil - Incl. Cartridge .....	1
193-33	Gauge, Oil Pressure .....	1
122-37	Cartridge, Oil Filter .....	1
502-57	Tee, Oil Filter Inlet ....	1
502-20	Elbow, Street - Oil Pressure Gauge Connection .....	1
502-3	Connector, Inverted Flare - Oil Lines to Filter .....	2
122B94	Line, Oil - Filter Inlet .....	1
122B95	Line, Oil - Filter Outlet .....	1

### CYLINDER & VALVE GROUP

110C756	Block, Cylinder - Right Hand - Incl. Valve Guides and Exhaust Seat .....	1
110C757	Block, Cylinder - Left Hand - Incl. Valve Guides and Exhaust Seat .....	1
110B644	Guide, Valve .....	4
110A646	Seat, Exhaust Valve - Stellite Faced .....	2
110B643	Valve, Intake .....	2
110B642	Valve, Exhaust .....	2
110A738	Spring, Valve .....	4
110A648	Retainer, Valve Spring .....	4
110A639	Lock, Valve Spring Retainer - Pair .....	4
520A11	Stud, Exhaust Manifold .....	4
520A429	Stud, Cylinder Head - 3/8 x 2-1/2 .....	10
520A430	Stud, Cylinder Head - 3/8 x 2 .....	8
115A34	Tappet, Valve - Incl. Adjusting Screw .....	4
110B645	Gasket, Cylinder Base .....	2

PART NO.	DESCRIPTION	QUANT USED
CYLINDER & VALVE GROUP (CONT.)		
110D637	Head, Cylinder - Right Hand .....	1
110D638	Head, Cylinder - Left Hand .....	1
110B641	Gasket, Cylinder Head - Right or Left .....	2
104A91	Nut, Hex - 3/8" - 24 - Cylinder Head Mtg. - Hardened .....	18
526A127	Washer, Cylinder Head Mtg. ....	18
CONNECTING ROD & PISTON GROUP		
112-55	Piston - Incl. Pin .....	2
112A54	Pin, Piston .....	2
112A19	Ring, Lock - Piston Pin .....	4
113A57	Ring, Piston - Top Compression .....	2
113A58	Ring, Piston - 2nd Groove Compression .....	2
113A56	Ring, Piston - Oil Control .....	2
113-59	Ring Set, Piston - For 1 Piston .....	2
114B65	Rod, Connecting - Incl. Brgs. & Bushings .....	2
114B53	Bearing Half - Upper or Lower (Precision Type) .....	4
114B54	Bushing, Piston Pin to Connecting Rod (Semi-Finished) .....	4
114A20	Washer, Lock - Connecting Rod Screw .....	4
114A57	Screw, Connecting Rod .....	4
CRANKSHAFT & CAMSHAFT GROUP		
104D172	Crankshaft .....	1
104B1	Gear, Crankshaft .....	1
515-1	Key, Crankshaft Gear or Camshaft Gear .....	2
104A95	Washer, Crankshaft Gear .....	1
518-16	Ring, Lock - Crankshaft Gear Washer .....	1

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105A112	Camshaft and Center Pin .....	1
105B107	Gear, Camshaft .....	1
150A440	Cup, Governor .....	1
150A413	Plate, Back - Governor Ball .....	1
150C417	Spacer, Governor Ball .....	1
150P437	Ring, Snap - Camshaft Center Pin .....	1
510-46	Ball, Fly - Governor .....	12
105A42	Washer, Thrust - Camshaft Gear .....	1
104A205	Flywheel - With Ring Gear .....	1
104-137	Gear, Ring .....	1
104A160	Washer, Flywheel .....	1
515-90	Key, Flywheel .....	1
134C388	Wheel, Blower .....	1
134C387	Hub, Blower Wheel .....	1
520A451	Stud, Blower Wheel .....	1
192B193	Support, Guide - Crank .....	1
516A88	Pin, Dowel - Crank Support .....	2
192C204	Crank, Hand Start .....	1

#### OIL BASE GROUP

102E220	Base, Oil .....	1
102B223	Foot, Oil Base .....	2
102A221	Cover, Oil Base Opening .....	1
102A222	Gasket, Cover .....	1
102B215	Gasket, Oil Base to Crankcase .....	1
505-268	Pipe, Oil Drain - 3/4" x 9" .....	1
505-29	Coupling, Oil Drain Pipe - 3/4" .....	1
505-130	Plug, Oil Drain Pipe - 3/4" Sq. Hd. ....	1
505-51	Elbow, Street - Oil Drain - 3/4" x 90 deg .....	1
123C402	Tube, Oil Fill .....	1
123C388	Housing, Crankcase Breather - Incl. Valve and Cover .....	1
123A380	Gasket, Oil Fill Tube (1), Breather Housing (1) .....	2
123A315	Valve, Crankcase Breather .....	1
123B409	Cap, Crankcase Breather .....	1

PART NO.	DESCRIPTION	QUANT USED
* OIL BASE GROUP (CONT.)		
123A410	Gasket, Breather Cap .....	1
123A378	Indicator, Oil Level .....	1
402A36	Cushion, Mounting - Upper .....	3
402A38	Cushion, Mounting - Lower .....	3
402A46	Bushing, Cushion Spacer .....	3
526A124	Washer, Mounting Cushion .....	3
GEAR COVER GROUP		
103C115	Cover, Gear - Complete Assembly .....	1
509-19	Seal, Oil - Crankshaft Front .....	1
150B416	Arm and Shaft, Governor .....	1
510-48	Bearing, Needle - Upper .....	1
510-49	Bearing, Needle - Lower .....	1
510-14	Ball, Bearing - Shaft Thrust .....	1
509-46	Seal, Oil - Governor Shaft .....	1
150A444	Yoke, Governor Shaft .....	1
516-90	Pin, Stop .....	1
150A411	Bracket, Governor Spring .....	1
150A438	Screw, Adjusting - Governor Sensitivity .....	1
520A363	Stud, Arm Cover Mtg. ....	1
103C110	Gasket, Gear Cover Mtg. ....	1
150A115	Spring, Governor .....	1
150A96	Stud, Governor Spring Tension .....	1
150A398	Nut, Governor Speed Adjusting .....	1

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### IGNITION GROUP

161A148	Magneto - Incl. Drive Gear - Less Stop Button .....	1
160A124	Gasket, Magneto Mtg. ....	1
160B339	Gear, Magneto Drive .....	1
<del>161-108</del>	Condenser, Magneto ..... <del>161-108</del>	1
161-86	Point Set, Magneto Breaker .....	1
167A1213	Cable, High Tension - Right Hand .....	1
167A1214	Cable, High Tension - Left Hand .....	1
167-35	Plug, Spark .....	2
166-105	Nipple, Spark Plug .....	2
167A41	Shield, Spark Plug .....	2
191B7	Motor, Starting - 12 Volt (Engine Spec. 245A) .....	1
191P77	Motor, Starting - 6 Volt (Engine Spec. 251A) .....	1

### FUEL SYSTEM GROUP

140C266	Cleaner, Air .....	1
123A411	Tube, Air Cleaner to Breather Cap .....	1
149C405	Pump, Fuel .....	1
149K5	Kit, Fuel Pump .....	1
502-2	Elbow, Inverted Flare - Fuel Pump Inlet & Outlet, Carburetor Inlet .....	3
149A388	Spacer, Fuel Pump Mtg. ....	1
159B407	Line, Fuel - Pump Inlet .....	1
149A171	Bracket, Fuel Line - Fuel Line Connection .....	1
149B403	Line, Fuel - Pump to Carburetor .....	1
154A268	Manifold, Intake .....	1
154A252	Gasket, Intake Manifold Mtg. ....	2
141C466	Carburetor (See Carburetor Parts Group) .....	1
520A118	Stud, Carburetor Mtg. - 3/8" x 1-1/2" .....	2
154A133	Gasket, Carburetor Mtg. ....	1
155C352	Manifold, Exhaust .....	1
155A170	Adapter, Exhaust Manifold to muffler .....	1
154A133	Gasket, Manifold to Adapter .....	1
155A343	Gasket, Exhaust Manifold Mtg. ....	2
155-389	Muffler, Exhaust .....	1

PART NO.	DESCRIPTION	QUANT USED
AIR PRE-HEATER GROUP		
133C31	Adapter, Heat - Air Cleaner Top .....	1
133A32	Tube, Air-Blower Housing Top Outlet .....	1
503A215	Hose, Air - Air Tube to Adapter .....	1
503-43	Clamp, Air Hose .....	2
CARBURETOR PARTS GROUP		
141C466	Carburetor - Less Choke arm and Control Rod .....	1
141A496	Bracket, Choke Control Rod .....	1
141A497	Rod, Choke Control .....	1
145A60	Lever, Choke Shaft .....	1
141-530	Body, Air Intake - Incl. Shaft Bushing #141-531 .....	1
141-531	Bushing, Choke Shaft .....	1
141A478	Shaft, Choke .....	1
141-532	Plate, Choke .....	1
141-471	Screw, Choke Plate .....	2
141-8	Needle, Idle Adjusting .....	1
141-9	Spring, Idle Needle .....	1
141-533	Head, Filter .....	1
141-534	Washer, Fibre - Filter Head .....	1
141-535	Float .....	1
141-206	Axle, Float .....	1
141-536	Gasket, Intake Body To Fuel Bowl .....	1
141-537	Screw, Intake Body To Fuel Bowl .....	6
141-538	Bowl, Fuel .....	1
141-70	Plug, Drain .....	1
141-544	Plug, Power Jet Valve Channel .....	1
141-545	Gasket, Fuel Bowl to Throttle Body .....	1

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141-546	Screw, Fuel Bowl to Throttle Body .....	2
141-547	Body, Throttle - Incl. Shaft, Plate, and Lever .....	1
141-548	Shaft and Lever - Incl. Stop Screw .....	1
141-551	Plate, Throttle .....	1
141-257	Screw, Throttle Plate .....	2
141-552	Lever, Throttle .....	1
141-2	Screw, Throttle Lever .....	1
141-485	Venturi .....	1
141-553	Jet, Adjustment, Main .....	1
141A77	Washer, Fibre - Main Adjustment .....	1
141-554	Jet, Idle .....	1
141-555	Jet, Discharge .....	1
141-556	Jet, Well Vent .....	1
141-557	Valve, Fuel Inlet .....	1
141A77	Washer, Fibre - Fuel Valve .....	1
141-529	Kit, Gasket .....	1

#### GOVERNOR ACCESSORY GROUP

150B470	Booster, Governor Speed (Assembly) .....	1
150A425	Ring, Gasket - Booster Mtg. ....	1
150A366	Spring, Booster - Internal .....	1
150K434	Kit, Diaphragm Replacement - Booster .....	1
150A373	Plate, Diaphragm - Booster .....	1
150A374	Gasket, Diaphragm Plate - Booster .....	1
150A376	Bracket, Internal Spring - Booster .....	1
150A495	Bracket, External Spring - Booster .....	1
516-65	Pin, Roll - 3/32 x 3/4" - Booster .....	1
516-39	Pin, Roll - 3/32 x 5/8" - Booster .....	1
150A471	Spring, External - Booster .....	1
150A410	Link, Governor Arm to Carburetor .....	1
150A300	Joint, Ball - Governor Line .....	1
150C454	Cover, Governor Arm .....	1

PART NO.	DESCRIPTION	QUANT USED
AIR HOUSING GROUP		
134D456	Housing, Blower .....	1
134D396	Scroll, Blower Housing .....	1
134B397	Grille, Blower Housing Air Outlet .....	1
134E408	Panel, Blower Housing Front .....	1
134B398	Plate, Baffle - Left Hand Cylinder .....	1
134B399	Plate, Baffle - Right Hand Cylinder .....	1
134B402	Extension, Left Hand Baffle Plate .....	1
134B403	Extension, Right Hand Baffle Plate .....	1
134B437	Shroud, Left Hand Cylinder - With Fasteners ..	1
134B438	Shroud, Right Hand Cylinder - With Fasteners ..	1
134B414	Catch, Shroud Fastener - Right Hand Lower .....	1
134A411	Catch, Shroud Fastener - Right Hand Upper .....	1
134A413	Catch, Shroud Fastener - Left Hand Lower .....	11
134B410	Catch, Shroud Fastener - Left Hand Upper .....	1
517-9	Plug, Blower Housing Air Tube .....	1

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